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Letter of Transmittal

Date:	23 November 1999
File Number:	74167-017
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Subject:	Hexcel Facility, Lodi, NJ

Copies	Date	Description
3	Nov-99	Remedial Action Workplan Addendum
1 of each	Various	Laboratory QA/QC Packages (STL Job #s: F921, G004, G836,Q666, and S619
1	Nov-99	Diskette With Electronic Deliverables
1	Nov-99	Electronic Data Submittal Application (EDSA) Check

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REMEDIAL ACTION WORKPLAN ADDENDUM
HEXCEL FACILITY, LODI, NEW JERSEY

by

Haley & Aldrich, Inc.
Dover, New Jersey

for

Hexcel Corporation

File No. 74167-017
November 1999

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1.0 EXECUTIVE SUMMARY

This Remedial Action Workplan Addendum (RAWA) is provided for the Hexcel Facility (the site) located at 205 Main Street, Borough of Lodi, Bergen County, New Jersey, which is the subject of an investigation under the Industrial Site Recovery Act (ISRA). Based on the results of the soil and groundwater investigation activities undertaken over the past ten years, results from various pilot tests conducted at the site, and the evaluation of the available remedial technologies, a conceptual remediation plan was developed for the site and presented to the New Jersey Department of Environmental Protection in May 1999. This RAWA summarizes the results from soil and groundwater investigation activities and is submitted to present the details of the remediation plan for the site.

The soil and groundwater contamination at the site is primarily associated with the presence of Dense and Light Non-Aqueous Phase Liquids (DNAPLs and LNAPLS). The contaminants of concern are mainly Volatile Organic Compounds (VOCs) and Polychlorinated Biphenyls (PCBs). Due to the nature of the contamination and the success of a pilot test, 2-Phase Extraction Technology was selected as the most viable remedial technology for the site because it is capable of remediating both soil and groundwater media simultaneously. In addition, removal and disposal of shallow soils contaminated with PCBs is proposed to eliminate surface exposure to PCBs. The RAWA provides details on the 2-Phase Extraction technology, provides preliminary design for the site-specific application of the technology, presents the remediation plans for PCBs, and summarizes other minor Areas of Concern (AOCs) at the property.

The remediation plan for the site has been developed to accomplish the site-specific remediation goals, namely, i) removal of free product (DNAPL and LNAPL) in the shallow overburden formation, ii) no adverse effect on Saddle River, iii) no increasing trends of contaminants in the lower overburden formation, iv) elimination of surface exposure to PCBs, and v) elimination of mobile PCBs. The success of the 2-Phase Extraction technology and other remediation activities will be evaluated against these performance objectives.

In addition to the primary AOC related to the presence of DNAPL and LNAPL source areas, we have presented several other outstanding issues as additional AOCs in this RAWA. Additional investigation/remediation activities have been proposed to resolve these outstanding issues. These additional investigation/remediation activities have been represented as AOCs in this RAWA in order to provide a complete overview of the plan for the site.

2.0 INTRODUCTION

This Remedial Action Workplan Addendum (RAWA) is provided for the Hexcel Facility ("the site") located at 205 Main Street, Borough of Lodi, Bergen County, New Jersey, which is the subject of an investigation under the Industrial Site Recovery Act (ISRA). Figure 1 and Figure 2 are the Site Location Map and the Site Plan, respectively. The RAWA supplements the various submissions to the New Jersey Department of Environmental Protection (NJDEP) which are discussed later.

The site is located in a historically industrial area with the presence of manufacturing facilities dating back to the 1800s. The site was part of the historic United Piece Dye Works and has been operated as a chemical manufacturing facility since the early 1900s under various ownerships. Most recently, the site was operated by Fine Organics Corporation (Fine Organics) which ceased operations in September 1998. This RAWA is provided on behalf of Hexcel Corporation (Hexcel), the current owner of the property. Demolition activities were conducted following cessation of operations by Fine Organics. All the buildings at the site except for a warehouse, were demolished in early 1999.

The soil and groundwater investigations to date have indicated contamination related to the presence of chlorinated solvents and Polychlorinated Biphenyls (PCBs). Non-Aqueous Phase Liquids (NAPLs) have been detected and recovered from a number of wells on the site. Although both Dense (DNAPLs) and Light (LNAPLs) non-aqueous phase liquids are present, presence of DNAPLs has been more persistent and widespread than LNAPL. Similarly, although dissolved concentrations of LNAPL-related compounds (benzene, toluene, xylenes) have been detected in groundwater and in soil, the majority of the contamination is related to the presence of chlorinated solvents. PCBs appear to be associated primarily with the DNAPLs with the exception of an area of surficial contamination. Due to the complexity of the nature of DNAPLs, potential of PCB migration with DNAPLs, and the majority of soil and groundwater contamination relating to the DNAPLs, the focus of the remediation strategy will be the remediation of DNAPLs. The remediation strategy, which will focus on LNAPL and DNAPL source removal, will address and treat soil and groundwater contamination areas as well.

The investigations at the site were initiated in response to the requirements of the Environmental Cleanup Responsibility Act (ECRA; now referred to as ISRA), which became applicable on 31 December 1985 when Hexcel Corporation (Hexcel) entered into a Purchase Agreement to transfer ownership of its facility located in Lodi, New Jersey to Fine Organics. In accordance with the ECRA requirements, a *General Information Submission (GIS)* and a *Site Evaluation Submission (SES)* dated 7 January 1986 were submitted to the New Jersey Department of Environmental Protection (NJDEP). Initial soil investigations, pre-dating the trigger of ECRA at the site, occurred in June 1984 to identify the extent of contamination from two leaking underground storage tanks. Further soil investigations were performed in June and August 1985 to identify potential areas of environmental concern and an ECRA sampling plan was submitted in April 1986 to address these areas. The NJDEP approved the plan in December 1987 and the investigation plan was implemented in 1988.

The results of the NJDEP-approved sampling plan were submitted in two parts. A report titled *"Presentation of ECRA Sampling Results for Hexcel Corporation"* was submitted in December 1988. Following submission of the report, additional sampling was conducted during December 1988 and January 1989. The results for additional investigations were submitted in March 1989 in a report titled *"Remediation Plan for the Former Hexcel Industrial Chemicals Group, Lodi Facility"*. The NJDEP granted conditional cleanup plan approval in July of 1990.

During the Spring of 1991, a Groundwater Recovery and Treatment System was installed, as proposed in the March 1989 Remediation Plan. The system was operated on a batch treatment basis during the period of testing of the system and procurement of various permits including the Sewer Use Permit for the Passaic Valley Sewerage Commissioners (PVSC).

Hexcel submitted a report titled *"Summary of Soil Investigation and Conceptual Cleanup Plan Proposal"* to NJDEP in January 1993 presenting alternatives for cleanup of contaminated soil on the site. Although the above-mentioned report did not discuss groundwater contamination, the expected groundwater remediation plan for the site was the operation of the groundwater recovery and treatment system at full capacity upon approval of the necessary permits.

The submission of the soil cleanup plan was followed by a period of financial instability for Hexcel. At the time when Hexcel was recovering from its financial problems, there appeared to be an opportunity for remediation of the site within the regional framework in conjunction with the proposed plans for redevelopment of the general area by the Borough of Lodi. Additionally, Hexcel was pursuing to purchase the property back from Fine Organics, which would render the site accessible for an aggressive remediation approach.

During the 1990s, Hexcel continued to implement interim remedial measures including free product recovery, and collection and treatment of groundwater entering the basement. Additional tasks, including pilot test for the groundwater recovery system and investigation of barrier wall option as a remediation strategy, were conducted during this period. A pilot test was performed in the Fall of 1996 to evaluate the groundwater recovery system. Data collected from the recovery system pilot test indicated that the current recovery well configuration and equipment would be unable to obtain hydraulic control of the groundwater. Furthermore, the limitations of the recovery system and low well yields would make it ineffective to add more recovery wells to the current system. The details of the pilot test for the existing recovery system at Hexcel was provided in a February 1997 Report *"Modifications to the Ground Water Remediation Plan (March 1, 1989) for the Former Hexcel Facility, Lodi, New Jersey"*. Hexcel also submitted reports titled *"Summary of Historical Soil Data"* and *"Summary of Historical Groundwater Data"* to the NJDEP in July 1997.

In 1998, it became evident that although the focus of remediation at the site would be to render the site ready for the future use of the property, the regional remediation and the related development concept and approach were not in the near term viable. Therefore, with the anticipated departure of Fine Organics from the property in Fall 1998, Hexcel undertook a comprehensive evaluation of all remedial technologies including all conventional and innovative approaches. All options were evaluated for their effectiveness in remediating the specific media and limitations of application. Based on the comprehensive review, 2-Phase Extraction was selected as the most viable remedial technology for the site-specific conditions. 2-Phase Extraction technology is one of the few remedial technologies which are capable of remediating both the soil and groundwater media simultaneously. A pilot test performed in Fall 1998 demonstrated the effectiveness of the 2-Phase Extraction Technology.

Hexcel undertook demolition activities in Winter 1998 subsequent to Fine Organics vacating the property. All the buildings at the site, except for a warehouse, were demolished rendering the site accessible for remediation. The demolition activities were completed in Spring 1999.

Hexcel met with the NJDEP on 20 May 1999 to present the conceptual remediation plan for the site. This Remediation Action Workplan Addendum (RAWA) is submitted to present the details of the remediation plan discussed at the meeting. The RAWA will discuss the physical and hydrogeological setting of the site, summarize the current soil and groundwater conditions, and provide the support for the remedial action selection. The RAWA will provide details on the 2-Phase Extraction technology and provide preliminary design for the site-specific application of the technology. Technology capabilities and limitations will be discussed in addition to the technology performance monitoring criteria and site-specific cleanup objectives. The RAWA will provide an estimated schedule of remedial activities and associated costs.

3.0 PHYSICAL SETTING

The site is approximately a 2-acre parcel located at 205 Main Street in Lodi, Bergen County, New Jersey (refer to Figure 1 for Site Location Map). The Hexcel site is located in a historically industrial area with the presence of manufacturing facilities dating back to the 1800s. The site was part of the historic United Piece Dye Works (UPDW) and has been operated as a chemical manufacturing facility since the early 1900s under various ownerships. Most recently, the site was operated by Fine Organics Corporation which ceased operations in September 1998.

The site is bounded by Main Street to its east, Saddle River to its west, Molnar Road to its south, and the Route 46 ramp to its north. There are some retail businesses and residences across Main Street. Napp Technologies, Inc. (Napp), the site of a fatal explosion and fire in 1995, is situated across Molnar Road. Currently, the Napp site is the subject of an environmental investigation being conducted pursuant to ISRA.

Hexcel undertook demolition activities in late 1998, which were completed in Spring 1999. All the buildings at the site have been razed, with floor slabs left in place. The only remaining building is the warehouse, which has been left intact to house some of the remediation system components. With the cessation of an operating facility and the demolition of the buildings, the site has been rendered accessible for remediation (Figure 3: Post-Demolition Photos).

The site is located adjacent to the east bank of the Saddle River. At present, the NJDEP has designated the Saddle River as an FW-2 stream, which is a general surface water classification for the waters of the State of New Jersey. This classification denotes that it is not used presently for potable water.

4.0 HYDROGEOLOGICAL SETTING

The site is mapped in the Passaic Formation. The geology above the bedrock is characterized by the fluvial deposits of the Saddle River and man-emplaced fill materials. The subsurface at the site consists of a shallow (or upper overburden) formation, a deep (or lower overburden) formation and a confining layer which separates these two formations. The simplified figure (Figure 4) below illustrates the general geological cross-section at the site:

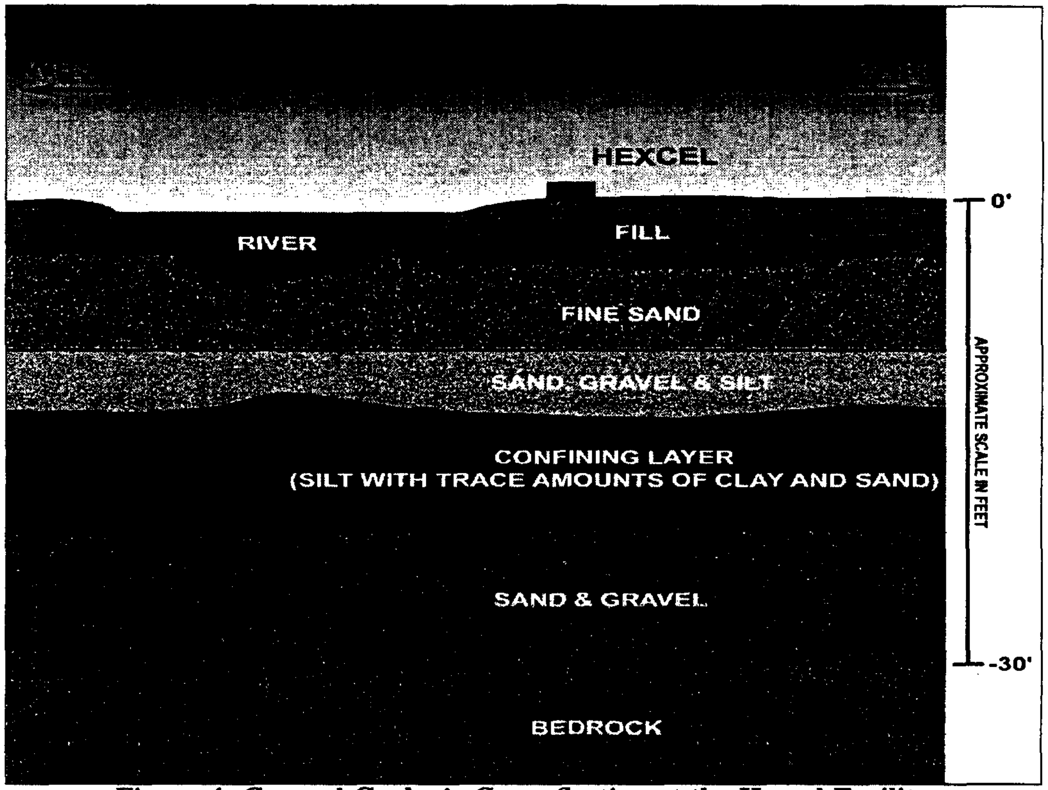

Figure 4: General Geologic Cross-Section at the Hexcel Facility

The subsurface information has been developed from installation of wells and borings at the site. The description and hydrological characteristics of each of the layers is provided in the following sub-sections. Appendix A provides the report[1] for the hydrological testing of the soil samples.

Shallow Formation: The evaluation of the boring logs indicates that the upper subsurface formation consists mainly of fill and fluvial deposits. The uppermost layer of the subsurface is fill consisting of sand, gravel, small boulders, organic matter and cinders. The fill ranges in thickness from 4 feet to 10 feet over the site. Underlying the fill is a formation characteristic of natural fluvial deposits. The fluvial deposits at the site have two distinct layers. The top layer, immediately under the fill, consists of a fine sand. The tested average unit weight of this uniform sand is 100 pcf and the average porosity is 0.46. The tested permeability of this layer is 10^{-3} cm/sec. The layer underlying the fine sand consists of gravel, sand and silt. The amount of silt, sand and gravel in this bottom layer of fluvial deposits varies over the site. Due to the presence of a wide range of particles in this layer, the average porosity of this layer, at 0.32, is lower than the fine sand layer above it. Consequently, the permeability of this layer is also expected to be lower than that of the fine sand layer. The tested average unit weight of the bottom layer of the fluvial deposits is 126 pcf.

The depth to the water table (groundwater in the shallow formation) is typically 3 to 7 feet from the ground surface. Due to the shallow depth of the water table, the groundwater saturates the fluvial deposits and portions of the fill across the entire site. Based on the

[1] The values for hydrological parameters, including unit weight, grain-size analyses, porosity, and permeability, are based on laboratory tests performed by Geotechnical Laboratory of Woodward-Clyde for soil sample cores collected and tested in December 1995.

current subsurface information, the Saddle River channel appears to be in hydraulic connection with the fluvial deposits.

In the shallow formation, the general direction of the groundwater flow is from the east to the west toward the Saddle River. The groundwater elevation contours for water levels collected in July 1999 are provided in Figure 5. The contours indicate the presence of a groundwater mound in the vicinity of the former Building 2. This mound indicates a locally altered groundwater flow direction, as indicated in Figure 5. While the facility was in operation, the possibility of leaking water pipes was believed to be the cause for the mound. It is possible that a concrete structure, which is known to exist under the former Building 2, is the cause for the mound since the mound has not dissipated following water utility shut-off to the site.

Confining Layer: Underlying the fill and fluvial deposits is a layer of fine-grained sediments which form the confining layer. Grain-size analyses of this layer indicates that these sediments are mainly silt with trace amounts of sand and clay. The unit weight of this layer is 132 pcf and porosity is 0.34. The tested average permeability of this material is 4.5×10^{-6} cm/sec. This permeability value is consistent with the published range of permeability for silt and indicates that this formation restricts groundwater flow. The depth to the confining layer from ground surface has been found to range from 7 feet to 16 feet over the site and the thickness of the layer varies from 4 feet to 15 feet. The confining layer is known to exist from the western property boundary (along the Saddle River) and extends eastward towards Main Street. The subsurface investigations indicate that the confining layer is thinner and more silty in the vicinity of the Main Street, compared to the other areas of the site.

Deep Formation: Sediments of the deep formation beneath the confining layer are composed of sand and gravel deposited by glacial processes. This deposit is characteristic of glacial outwash deposits in which coarse sediments are laid down by debris-laden streams formed from meltwater of glaciers. This formation appears to extend down to the bedrock. The range of depth to the bedrock at the site is 25 to 30 feet from the ground surface. Although analyses have not been conducted to evaluate the hydrological parameters of the deep formation, the porosity and permeability of the formation are expected to be higher than that of the shallow formation based on the soil composition. In the deep formation, the potential direction of groundwater flow is from the northeast to the southwest. Figure 6 provides the groundwater contours generated for the water level data collected in July 1999 for the eight deep wells on site.

5.0 SUMMARY OF INVESTIGATIONS

The investigation activities at the site have been going on since 1984 to evaluate the soil and groundwater conditions at the site and for the purposes of developing remedial strategy for the site. This section briefly summarizes the soil and groundwater investigation activities conducted to date; the details on the investigations were provided in the previous submissions to the NJDEP.

5.1 Soil Investigations

Soil conditions at the site have been extensively investigated with samples collected between June 1984 and August 1999. Initial soil investigations occurred in June 1984 to identify the extent of contamination from two underground storage tanks (USTs). Subsequent soil sampling was performed at the site to identify areas of environmental concern and the extent of soil contamination. Soil sampling conducted at the site consists of soil samples from 138 borings, post-excavation samples for USTs, and surface samples for PCB delineation. Of the 138 borings, 110 borings and the UST excavations were conducted between 1984 and 1992; detailed results from these investigations were provided in earlier submissions to the NJDEP and most recently summarized in the "*Summary of Historical Soil Data*" report submitted to the NJDEP in July 1997. Since then, 30 borings were installed in October 1998 to obtain further information on PCBs for remedial planning purposes. Additionally, soil samples were collected from 7 hand-auger borings and 16 Geoprobe borings in June and August 1999 to delineate an area with elevated levels of PCBs on the surface. Table 1 lists all the soil samples, including depths and tested parameters, collected at the site for evaluation of soil conditions.

5.2 Groundwater Investigations

Groundwater investigations at the site have included testing of wells for groundwater quality and monitoring for free product presence in the wells. Hexcel has been performing an approved groundwater elevation/product monitoring program on a weekly, monthly, and quarterly basis as part of the interim remedial measure for the site. Apart from monitoring of wells for free product (LNAPL and DNAPL) on a regular schedule, Hexcel has conducted groundwater sampling for chemical analyses to evaluate the dissolved concentrations in groundwater. The most recent round of groundwater sampling at the site was conducted in August 1998. The details on the three different series of wells (monitor, recovery, and control wells) installed at the site were provided in the July 1997 "*Summary of Historical Groundwater Data*". Table II summarizes the groundwater sampling conducted at the site.

6.0 INVESTIGATION RESULTS

The results from both soil and groundwater investigations are discussed together and categorized based on specific parameter, to develop the Areas of Concern (AOCs) for the site. Most of these results have been provided to the NJDEP in previous submissions, and were recently summarized in the above-referenced July 1997 reports on soil and groundwater data. This RAWA summarizes the historical data including the more recent data from soil sampling conducted for PCBs in 1998 and 1999 and the groundwater sampling data from 1998. The results are categorized for the parameters of concern, namely, i) Volatile Organic Compounds (VOCs); ii) Base/Neutral and Acid Extractable Compounds (BNAs); iii) Polychlorinated Biphenyls (PCBs); and iv) Priority Pollutant Metals (PPMs). Section 6.5 provides a technical overview of the soil and groundwater data .

6.1 Volatile Organic Compounds (VOCs)

A review of the volatile organic testing conducted at the site indicates the presence of contamination in the soil and groundwater associated primarily with the presence of DNAPL (chlorinated solvents) source areas, and LNAPL (fuel oil and gasoline) source areas to a lesser degree. The presence of volatile organic compounds in the soil is limited to the areas of former underground and aboveground storage tanks, as shown in Figure 7. For boring locations where samples have been taken at various depths, the general trend is an increase in concentration with increase in depth from the ground surface within the shallow formation, as would be expected from a DNAPL-related contamination. Table III provides the results for soil samples exceeding the Impact to Ground Water Soil Cleanup Criteria (IGWSCC), the most stringent cleanup criteria for volatile organic parameters. Figure 7 provides the soil sample locations tested for VOCs; samples were collected at more than one depth at most locations.

The groundwater monitoring results show that the dissolved concentrations of VOCs have been delineated for the purposes of the implementation of the remedial action at the site. Table IV provides the results for volatile organic testing over time for the shallow wells and Table V provides the results for the deep wells. Figure 2, Site Plan shows the monitor well locations.

Due to the nature of DNAPL contamination, 2-Phase Extraction was selected as the most viable remedial technology for the site because of its capability in treating NAPLs, contaminated soil, and groundwater in an area. The areas identified as soil contamination areas (Figure 7) will be treated using the 2-Phase Extraction process, together with the other DNAPL-source areas identified at the site from groundwater/product monitoring. Section 10 provides details on the 2-Phase Extraction technology and its site-specific application for Hexcel.

6.2 Polychlorinated Biphenyls (PCBs)

PCBs at the site are associated both with LNAPL and DNAPL and have been detected in soil and groundwater samples collected at the site. The PCBs in the soil have been delineated. A comprehensive investigation was undertaken in 1998 and 1999 to delineate i) the PCBs in soils associated with the presence of DNAPLs, and ii) PCBs on the surface in an area close to the former Boiler Room. The soil sampling results were reviewed in conjunction with the current PCB remediation policy (40 CFR 761.61) which allows for levels up to 100 ppm to be left on-site with the appropriate engineering and institutional controls. As of 1 November 1998, the Site Remediation Program is accepting 100 ppm as the soil removal criteria for PCBs (*Site Remediation News, December 1998, Vol. 10 No 2-Article 03*).

Table VI provides the results for all soil samples tested for PCBs at the site and Figure 8 provides the PCB sampling locations; samples were collected at more than one depth at most locations. Aroclor 1242 and Aroclor 1248 have been detected in exceedance of the 100 ppm PCB level in the soil samples. The Aroclor detected in the surface samples is primarily 1248 whereas the Aroclor detected in the deep samples is primarily 1242. Other Aroclors (1232, 1254, and 1260) have been detected at low levels in isolated soil samples. As indicated in Figure 8, the extent of surficial PCBs is limited and the soils from the impacted area are proposed to be excavated, as detailed in Section 7.6. PCBs exceeding the 100 ppm level in deep soil samples are also limited to a few isolated locations. Section 7.6 also outlines the proposed remedial strategy for the deep sub-surface PCBs, primarily associated with DNAPLs.

Relatively low concentrations of PCBs have been detected in the groundwater samples compared to the levels detected in the soils. This indicates the tendency of PCBs to adsorb strongly to soil, limiting their mobility and potential for groundwater contamination. The high affinity of the PCBs to the soil particles was examined by analyzing both filtered and unfiltered groundwater samples for PCBs in 1993. Out of the seven wells for which both types of samples were collected, PCBs were detected in the unfiltered samples from five wells in the range of 1.9 µg/L to 470 µg/L (Table VII). On the other hand, PCBs were not detected in the filtered samples from the six out of the seven wells tested.

For the most recent groundwater sampling round in 1998, PCBs were detected in unfiltered samples from the shallow wells in the range of non-detect to 150 µg/L; filtered samples were not collected. PCBs were also detected in two deep wells, MW-9 (1.5 µg/L) and MW-3 (0.35 µg/L), for the 1998 groundwater testing round; samples from all the other deep wells were non-detect for PCBs. Table VII and Table VIII provide PCB results for groundwater samples from shallow and deep wells, respectively.

6.3 Base/Neutral and Acid Extractable Organics (BNAs)

Although BNAs do not appear to be of significant concern at the site based on the review of the soil and groundwater data, a proposal for additional groundwater sampling for BNAs was provided in our 3 March 1999 letter in response to the NJDEP's 3 February 1999 letter; the proposal is outlined in Section 7.3. Of all the soil samples tested, only four exceeded the Residential Direct Contact Soil Cleanup Criteria (RDCSCC) at concentrations only marginally higher than the cleanup criteria (Table IX); the RDCSCC is the most stringent cleanup criteria for the BNA compounds. Additionally, of all the wells tested for BNAs, significant BNAs were detected only in well CW-3 and a few exceedances were detected in CW-11 and CW-12. The proposal for additional groundwater testing for BNAs, as stated above, includes sampling of CW-3, CW-11, and CW-12. Figure 9 provides the soil sample locations. Table X provides the exceedances for BNAs detected in the groundwater samples.

6.4 Priority Pollutant Metals (PPMs)

Although metals do not appear to be of significant concern at the site based on the review of the soil and groundwater data, a proposal for additional groundwater sampling for PPMs was provided in our 3 March 1999 letter in response to the NJDEP's 3 February 1999 letter; the proposal is outlined in Section 7.3. Of all the soil samples tested for metals, only four samples exceeded the RDCSCC, which is the most stringent cleanup criteria for metals (Table XI). Figure 10 provides the sample locations. Table XI and Table XII provide the exceedances for metals detected in soil and groundwater samples.

6.5 Technical Overview

The laboratory data presented with this report is reliable. A technical overview of the laboratory data was conducted in accordance with the Technical Requirements for Site Remediation (N.J.A.C. 7:26E). Specifically, the conformance/non-conformance summaries provided by the laboratory were reviewed. Extraction and Analysis Dates reported by the laboratory were reviewed and determined to be in compliance with the required holding times. NJDEP-certified laboratory, STL Envirotech (Certification # 12543) was used for analytical services.

The laboratory QA/QC packages for soil PCB analyses conducted in 1998 and 1999 are provided as separate volumes. Laboratory QA/QC packages for the soil and groundwater data collected prior to 1998 were submitted to the NJDEP with previous submissions. Additionally, laboratory QA/QC package and electronic deliverables for the groundwater data collected in July 1998 were submitted to the NJDEP with our October 1998 progress report. The electronic deliverables for the 1998 and 1999 PCB data are provided in the enclosed diskette. A printout indicating that the data passed the Electronic Data Submittal Application (EDSA) evaluation is provided with the cover letter.

7.0 AREAS OF CONCERN (AOCS)

As discussed earlier, the soil and groundwater contamination at the Hexcel facility is related to the presence of DNAPL and LNAPL source areas. Due to the complex nature of contamination associated with the presence of DNAPLs, the selection of remedial strategy for the site was focused towards a technology that would be capable of remediating both soil and groundwater. Therefore, the primary Areas of Concern (AOCs) at the site are the DNAPL and LNAPL source areas which continue to impact the soil and groundwater quality at the site. We have also identified additional AOCs, as listed below, based on our proposals for additional investigation activities presented to the NJDEP in our 3 March 1999 letter in response to the NJDEP's 3 February 1999 letter. Therefore, based on our evaluation of the soil and groundwater results and a review of the proposals for further investigation presented in our 3 March 1999 letter, the AOCs for the Hexcel site can be summarized as follows:

AOC 1: DNAPL and LNAPL Source Areas/ Exceedances of Volatile Organic Compounds (VOCs) in Soil and Groundwater
AOC:2: Delineation of Groundwater Contamination to the South (across Molnar Road)
AOC:3: Base/Neutral and Acid Extractable Organics (BNAs) and Priority Pollutant Metals (PPMs)
AOC 4: Extent of Silt Layer in the Area of Former Building 2 and Investigation for Presence of DNAPL
AOC 5: Groundwater Quality in the Deep (Lower Overburden) Formation
AOC 6: Remediation of PCBs
AOC 7: Bedrock Groundwater Investigation
AOC 8: Saddle River as a Receptor
AOC 9: Storm Sewer Outfall
AOC 10: Industrial Sewer Line
AOC 11: Hexcel Production Well

7.1 AOC 1: DNAPL and LNAPL Areas/ Volatile Organic Compounds (VOCs) in Soil and Groundwater

Based on the soil and groundwater testing conducted at the site and the continued product monitoring efforts, areas proposed to be targeted for remediation have been identified ("source areas"). The source areas include i.) areas of DNAPL and LNAPL presence as observed from product monitoring efforts, and ii) areas of soil contamination, as depicted in Figure 7. The identification of the source areas was important in the development of a remedial strategy for the site. Each of these source areas, which will be targeted for the implementation of the remedial action at the site, is shown in Figure 11 (below and also attached) and summarized in the following sub-sections. Although some of the source areas are adjoining each other, they have been divided into separate areas for the proposed 2-Phase application. Based on the final design of the 2-Phase Extraction system, it is possible that some of these areas might be merged, if appropriate.

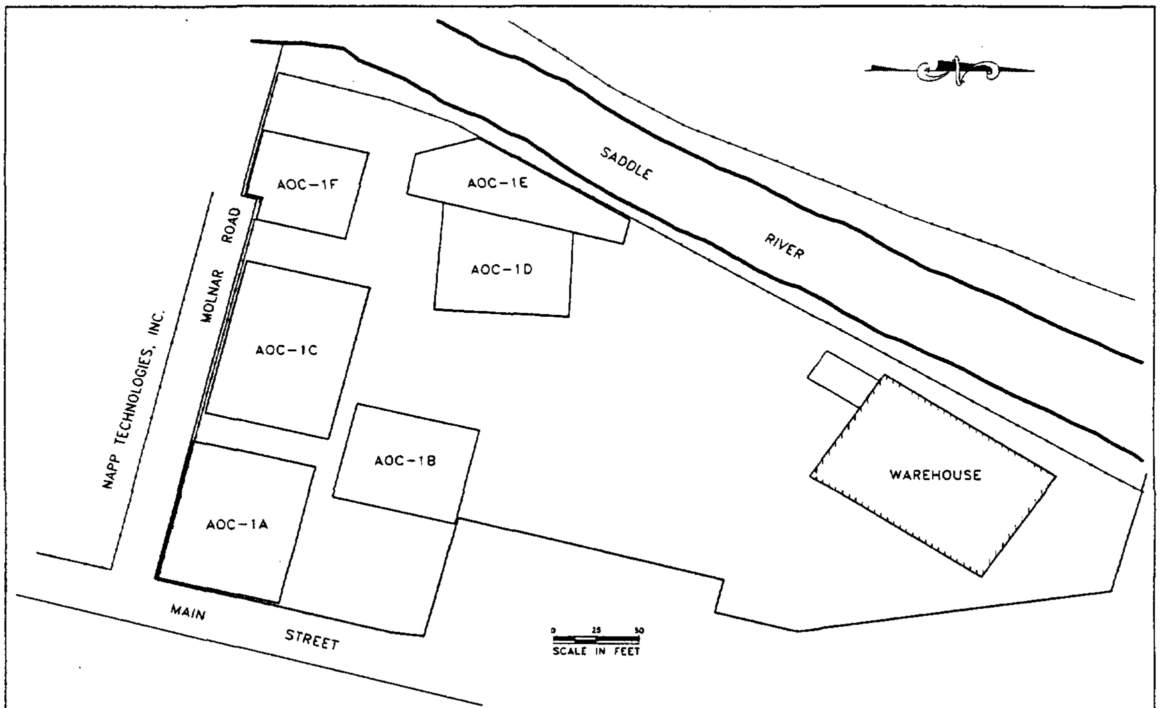

Figure 11: AOC-1, Areas Identified for 2-Phase Extraction Application

<u>AOC -1A:</u> Area close to the intersection of Main Street and Molnar Road where high methylene chloride concentrations have been detected in groundwater. The pilot test for the 2-Phase Extraction technology was conducted at AOC-1A.

<u>AOC -1B:</u> Area to the east of former Building 2 where exceedances for VOCs have been detected in soil and groundwater. Although no free product (LNAPL or DNAPL) has been detected in the monitoring wells MW-4 and MW-27 in AOC-1B, these wells have typically had very high concentrations of VOCs (> 100 ppm) detected in groundwater.

<u>AOC-1C:</u> Area of the basement pit and the adjoining areas of soil contamination. The basement pit has been long recognized as an area of concern due to the presence of DNAPL beneath the floor slab. One of the well points in the basement was utilized for DNAPL recovery until recently when the basement was secured with steel plates as part of demolition activities.

AOC-1D: Area to the west of former Building 2 where free product has been observed and recovered from monitoring and recovery wells. Specifically, monitoring well MW-6 in this area is the only well on-site that has indicated presence of DNAPL consistently over the past few years. Additionally, former aboveground storage tanks were also located in this area and soils testing has indicated elevated levels of VOCs.

AOC-1E: Area close to the Saddle River property boundary. Product monitoring at the site has indicated presence of DNAPL is some of the wells along the Saddle River property boundary. This source area is important because protection of the Saddle River is one of the remediation goals for the site (Section 12).

AOC-1F: LNAPL source area in the vicinity of well CW-7. Although no LNAPL has been detected in CW-7 for almost a year, substantial amounts of LNAPL have been recovered from this well historically. The remediation of this source area will enhance the groundwater quality in the downgradient well MW-10, which is located at the Saddle River property boundary.

The AOCs summarized above will be targeted for the implementation of the 2-Phase Extraction technology. Based on the results of the proposed investigation in the former Building 2, as outlined in Section 7.4 and previously submitted in our 3 March 1999 letter to you, this additional area will be targeted for remedial action, if necessary. Section 10 provides details on the proposed remedial action for AOC-1.

7.2 AOC-2: Delineation of Groundwater Contamination to the South (across Molar Road)

The evaluation of groundwater testing conducted in July 1998 indicates that additional testing to the south is not necessary to achieve delineation at this time, as we previously stated in our 3 March 1999 letter. Monitoring wells MW-22, MW-23, and MW-24, which are located along Molnar Road, were included in the July 1998 sampling for VOCs and PCBs. Hexcel was denied access by Napp to sample MW-25 (Hexcel well) and MW-E8 (Napp well) on their property.

Groundwater results indicate a significant improvement in concentrations detected in monitoring wells MW-22, MW-23, and MW-24. Specifically, total targeted VO concentrations in MW-22 decreased to about 1 part per million (ppm) in 1998 from 405 ppm in 1993. Similarly, total VOCs in MW-23 were detected at less than 0.1 ppm compared to 24 ppm in 1995. Additionally, the only compound detected in MW-24 was chlorobenzene at concentrations below the Ground Water Quality Standards. Although MW-E8 could not be sampled in July 1998, groundwater testing results from January 1997 indicate a total VO concentration of about 0.02 ppm. The historical groundwater testing data for shallow wells is provided in Table IV. Based on the testing results, Hexcel believes that groundwater contamination to the south along Molnar Road has been adequately delineated with regard to the contaminants at Hexcel.

7.3 AOC 3: Base/Neutral and Acid Extractable Organics and Priority Pollutant Metals

Hexcel proposes to perform groundwater sampling for metals as well as BNA testing, as outlined here and previously submitted in our 3 March 1999 letter. Hexcel proposes to perform groundwater sampling for all the shallow monitoring wells adjacent to the Saddle River (MW-8, MW-10, MW-14, and MW-28) and two control wells (CW-11 and CW-12) to evaluate the potential impact of BNAs and PPMs to the groundwater, as proposed in our 3 March 1999 letter. Additionally, control well CW-3 will be tested for BNAs since this was the only well that had indicated presence of significant BNAs when it was previously tested (in 1990). The results of the groundwater samples will be compared with GWQS to evaluate the need for further groundwater sampling for BNA and PPM parameters.

To evaluate the impact of turbidity on metals concentration, the samples will be collected using the low-flow purge method to reduce the effect of turbidity on metals concentrations. Additionally both filtered and unfiltered samples will be collected for metals analysis for a technical evaluation of the relationship between turbidity and metals concentrations, if any, at the site. Although NJDEP requires that results from only unfiltered samples be compared to the applicable standards, the filtered samples will be collected to evaluate the potential for the mobility of the metals. This additional groundwater sampling, as outlined above, will be performed upon the NJDEP's approval of the proposal.

7.4 AOC 4: Extent of Silt Layer in the Area of Former Building 2 and Investigation for Presence of DNAPL

Hexcel proposes to install a boring in the former Building 2 area to define the extent of the confining layer and investigate the presence of DNAPL in this area, as previously proposed in our 3 March 1999 letter to you. If the confining layer exists, the boring will be terminated at the top of the confining layer. Continuous sampling will be performed for visual inspection and field screening. The boring will be completed as a shallow monitoring well only if DNAPL is observed in the soil split spoon samples. If the confining layer is absent in this area, this would imply that the construction fill for the subsurface structure extends through the confining layer. If this is the case, the boring location will then be completed as a "deep" monitoring well in this case. The monitoring well will be completed with the top of the screen set at about 3 feet NGVD elevation, which is comparable to the top of the screen elevation for the nearest deep monitoring well MW-7. Hexcel will perform the activities following NJDEP's approval of this proposal.

7.5 AOC 5: Groundwater Quality in the Deep (Lower Overburden) Formation

Hexcel proposes to continue monitoring the wells screened in the lower overburden formation within the groundwater monitoring program for the site. Although dissolved concentrations of VOCs have been detected in the monitoring wells at the Hexcel site, these have typically been two to three orders of magnitude lower than the upper overburden formation. Additionally, DNAPL has never been detected or indicated in any of the deep wells. The above indicates that the silt-clay layer is an effective confining unit at the site.

The groundwater quality in the lower formation is expected to improve with the implementation of remedial action to remediate the DNAPL source areas in the shallow formation. Hexcel will continue to monitor the deep wells, while remedial action is implemented at the site, to evaluate the success of the remediation process.

7.6 AOC 6: Remediation of PCBs

As discussed in Section 6.2, based on the comprehensive PCB soil sampling conducted in 1998 and 1999 the PCB contamination at the site can be categorized into two areas; i) the presence of elevated levels of PCBs on the ground surface in the vicinity of the former Boiler room, and ii) PCBs primarily associated with DNAPL at depth, detected in the upper overburden soil samples. Both of these areas are discussed below.

Surficial PCBs: Hexcel proposes to excavate the limited area of elevated PCB levels, as shown in Figure 8, to a depth of 2 feet below ground surface. The surface PCBs have been delineated for the purposes of implementing remedial action. In the westerly direction, the surface soils will be excavated beyond sample HA-43 and HA-44, which had concentrations of PCBs exceeding the 100 ppm level. In the north direction, the excavation will be extended to the edge of the former boiler room. The slab of the former boiler room was left intact during demolition, therefore, the potential for surface exposure to PCBs, if any, is minimized. Post-excavation sample will be collected in accordance with the Technical Requirements for Site Remediation (N.J.A.C. 7:26E). Since field screening methods are not available for PCBs, post-excavation samples will be biased towards worst areas based on visual observations. Following excavation and collection of post-excavation surface samples, the area will be backfilled using clean backfill. Additionally, the area will be capped using an asphalt cover. This area will be included in the implementation of an institutional control at the site in the form of a Deed Notice.

PCBs in deeper soil samples: PCBs have been detected at concentrations exceeding the 100 ppm level in soil samples at depths below 5 feet from the ground surface. These soil sample locations are isolated and will be included in the areas proposed for 2-Phase implementation. Hexcel proposes to re-evaluate the locations exceeding the 100 ppm PCB level following the implementation of the 2-Phase remediation. During the remediation of source areas by implementation of 2-Phase, PCBs may be removed by removal of contaminated groundwater. The recovery of contaminated groundwater can be expected to reduce PCB concentrations in the formation together with the reduction in the VOC concentrations. Therefore, Hexcel proposes to re-evaluate the locations of PCB exceedances including the basement area for PCB concentrations, following implementation of the 2-Phase Extraction remediation process. The residual concentrations of PCBs in soil will be evaluated with respect to the impact on groundwater quality and if necessary, a petition for a risk-based alternate standard will be submitted to the regional USEPA administrator and the NJDEP case manager for consideration.

7.7 AOC 7: Bedrock Groundwater Investigation

The NJDEP has required installation of a bedrock well in the vicinity of MW-1, since this well is screened just above bedrock and contains elevated concentrations of chlorinated compounds. Hexcel acknowledges the NJDEP's requirement for vertical delineation in this area and will install a bedrock well near MW-1.

The schedule for bedrock well installation will be dependent on the schedule for implementation of remediation of the shallow overburden in this area. Hexcel is concerned about opening a pathway for deeper contamination. In spite of taking appropriate measures to avoid cross-contamination of the formations, the risk is a valid concern because of the thinning of the confining layer in this area. Therefore, Hexcel proposes to install the bedrock well for vertical delineation following remediation of the shallow contamination in this area.

7.8 AOC 8: Saddle River as a Receptor

Saddle River is an AOC due to its proximity to the site and the potential for environmental impact to its surface water and sediments from contamination on the Hexcel facility. We propose to evaluate the Saddle River by conducting surface water sampling, and an ecological assessment including evaluation and chemical testing of sediments. Each of these proposals are discussed below.

Surface Water Sampling: The compliance of surface water samples to the Surface Water Quality Criteria (SWQC) is a primary performance criteria of the remediation plan. Although Hexcel proposed collecting surface water samples at five locations in its letter dated 3 March 1999 to the NJDEP, NJDEP advised us in the May 1999 meeting that the proposal could not be approved since the agency imposed similar requirements on Napp. NJDEP has required surface water samples at seven locations based on a sample spacing of approximately one sample every 60 feet as required for Napp. The surface water samples will be analyzed for VOCs and PCBs. The need to include BNA and metals testing for surface water samples will be evaluated based on the results of the groundwater testing proposed in Section 7.3 above. Specifically, surface water samples will be analyzed for BNA and metal parameters only if concentrations exceeding the GWQS are detected in wells tested along the Saddle River. Therefore, surface water sampling will be performed upon NJDEP's approval of the additional groundwater testing proposal presented in Section 7.3 and evaluation of the groundwater testing results.

Ecological Evaluation: Hexcel will conduct an ecological evaluation pursuant to the Technical Requirements for Site Remediation. Pursuant to N.J.A.C. 7:26E-3.11 and 7:26E-4.7, Hexcel proposes to conduct the baseline ecological evaluation together with additional sampling, as proposed below, to evaluate the potential ecological impact of the on-site contamination to the river. Specifically, the ecological evaluation will include an inspection for the entire site for visual observations of stressed vegetation along the riverbank and unpaved portions of the site, and an assessment of the surface water and sediments. Sediment samples will be collected to examine the presence of benthic invertebrates. Visual observations of contamination, if any, in the sediments will also be noted. In addition, sediment samples will also collected for chemical analyses. The parameters for chemical analyses will be determined based on the results of the groundwater sampling. Sediment samples will be collected from an upstream location, potentially worst area (opposite well MW-8) adjacent to the riverbank, and a downstream location, for a qualitative comparison on abundance of the benthic organisms. The results of the ecological assessment activities, including results of chemical testing of sediments and surface water, will be provided to the NJDEP with our recommendations.

7.9 AOC 9: Storm Sewer Outfall

Hexcel requests that no further action be required for the sediments associated with the storm sewer outfall. Hexcel believes that the request is appropriate due to the following reasons:

- The sediment sampling results have shown presence of PCBs all along the Saddle River. The evaluation of the results of sediment sampling conducted by Hexcel and others were presented in our progress report dated 28 January 1998. The results are summarized in Table XIII and the locations of the sediment samples are provided in Figure 12.

- The storm sewer conveys runoff from a large area of Industrial Lodi. The contribution of other sources, including users of the storm sewer prior to its entrance onto the Hexcel and Napp properties and redistribution of sediments due to flooding events, is a significant factor.

- Saddle River is prone to significant flooding and more than seven major flood events have been recorded in the past thirty year with the most recent floods associated with Hurricane Floyd in September 1999. Significant redistribution of sediments, affecting the localized depositional environments, occurs from these flooding events.

- The U.S. Army Corps of Engineers (Army Corps), as NJDEP is aware, has a plan to widen and deepen the Saddle River channel as a flood protection measure. The Army Corps plan, when implemented, will involve dredging of the river sediments. Based on the Army Corps' report (*Interim Report on Flood Protection Feasibility, Lower Saddle River, Bergen Co., NJ*), Army Corps expects to encounter PCB contamination in sediments along a major portion of the Saddle River.

Therefore, based on the Army Corps plan for the Saddle River channel for the future, Hexcel believes that no further action be required for the sediments associated with the storm sewer outfall. The request for no further action is also appropriate due to the potential of contribution of other sources including users of the storm sewer prior to and after its entrance onto the Hexcel property and redistribution of sediments due to flooding events.

7.10 AOC 10: Industrial Sewer Line

Hexcel proposes to abandon the existing industrial sewer line. The 24-inch reinforced concrete pipe, which runs from the vicinity of the existing warehouse to the Hendrix pump station, has been reported to be filled with sediments with elevated levels of PCBs. Hexcel proposes to hydraulically flush and vacuum the interior of approximately 400 feet of length of the sewer line, from origin to Molnar Road. The recovered sediments will be tested for waste classification and transported for disposal to an appropriate facility. The sewer line will be jet-grouted using a cement-bentonite mixture. It is important that the sewer line be grouted prior to implementation of 2-Phase in the areas through which it runs, otherwise the open sewer line might act as a vacuum sink reducing the efficiency of 2-Phase Extraction in the area of the sewer line.

7.11 AOC 11: Production Well

Hexcel proposes to abandon the existing production well on the site, which is no longer used since cessation of operations at the facility. The production well is approximately 240 feet deep with 38 feet of casing. Upon NJDEP's approval, Hexcel will sub-contract a NJ licensed well driller to perform well closure activities.

8.0 REMEDIAL ACTION SELECTION

A comprehensive review of all remedial technologies was undertaken in 1998 with the objective to develop a comprehensive remedial plan for the site. We examined approximately 17 types of technologies and over 100 remedial process options. All options were evaluated for their effectiveness in remediating the contaminants in the specific media and for limitations of their applications. Based on the nature of contamination and the hydrogeological characteristics of the site, 2-Phase Extraction was selected as the most viable technology for remediation of contaminated soil and groundwater at the site. 2-Phase Extraction was selected for its versatility in treating both contaminated soil and groundwater (both vadose and saturated zones) simultaneously and its applicability to remediate source areas as well as dissolved concentrations of volatile organics in groundwater. The 2-Phase Extraction process and its site-specific application are discussed in Section 10. Additionally, a Hydrogen Release Compound (HRC™) application was selected as a possible polishing step, if required, to follow the 2-Phase Extraction. The HRC application is capable of enhancing the naturally occurring degradation processes of chlorinated solvents and can be applied to dissolved plumes. As such, HRC application was evaluated and selected as a potential process to enhance natural degradation processes for achieving the site-specific remediation goals (discussed in Section 12), if necessary when 2-Phase indicates an asymptotic recovery of contaminant mass. A brief description of the HRC application is provided in Section 11.

9.0 REGULATORY ACCEPTANCE

In our 20 May 1999 meeting with the NJDEP in which we presented the conceptual remedial plan, NJDEP requested information on previous applications of 2-Phase and HRC at other sites and on endorsements within the regulatory community. The NJDEP also inquired about endorsement from the Interstate Technology Regulatory Cooperative (ITRC). We visited ITRC's webpage on the Internet and contacted Mr. Frank Camera of the NJDEP who was listed as a contact. Mr. Camera advised us that ITRC's list of innovative characterization and remediation technologies is not inclusive of all available technologies. He was not surprised that 2-Phase Extraction and HRC are not part of the ITRC's current list. The sub-sections below discuss some of the applications for these technologies together with their regulatory endorsements.

9.1 2-Phase Extraction

2-Phase Extraction (or Vacuum-Enhanced Recovery) has been applied successfully at many NAPL sites and is listed as a technology that is in transition from being innovative to conventional (*Remediation Engineering: Design Concepts, Suthan S. Suthersan, 1996*). 2-Phase Extraction was one of the seven technologies that were demonstrated at the McClellan Air Force Base (AFB) which has been designated as the Chlorinated Hydrocarbons Remedial Demonstration Site as part of the National Environmental Technology Test Site (NETTS) Program. NETTS is a joint Department of Defense and USEPA program for the evaluation and testing of environmental remedial technologies. The 2-Phase Extraction technology demonstration at the McClellan AFB site was highly successful. Before conversion to a 2-Phase Extraction system, two wells together had extracted an average of 120 pounds of contamination per year from conventional pump and treat. In the first six months of 2-Phase Extraction from one well, approximately 1600 pounds of contamination was removed from the soil and groundwater. The Technology Fact Sheet states that the 2-Phase Extraction technology extracts VOCs from the soil while simultaneously removing contaminated groundwater and concludes that the use of 2-Phase Extraction accelerated the cleanup of both soil and groundwater contamination at the McClellan AFB. Information on the 2-Phase Extraction demonstration, downloaded from the Internet, is provided as Appendix B.

Haley & Aldrich has extensive experience in successful implementation of the 2-Phase Extraction technology in various states. Haley & Aldrich was instrumental in the development of the 2-Phase Extraction technology patented by Xerox, Inc, which was used at the McClellan AFB site. The Xerox-patented technology was also utilized for soil and groundwater remediation at an industrial facility in Blauvelt, New York. The New York State Department of Environmental Conservation (NYSDEC) has identified 2-Phase Extraction as the selected remedial technology in the Record of Decision for the Blauvelt site. Table XIV provides a summary of 2-Phase Extraction projects implemented by Haley & Aldrich, including information on the geologic setting, contaminants of concern, and the mass-removal performance.

A pilot test was performed at the Hexcel facility using the Xerox technology which indicated the effectiveness of the 2-Phase Extraction technique compared to a conventional pump and treat previously approved for the site in 1990. The pilot test results are discussed in the Section 10.2.

9.2 Hydrogen Release Compound (HRC™)

Hydrogen Release Compound (HRC™) is a fairly new proprietary compound marketed by Regenesis Bioremediation Products, Inc. and is in the commercial application stage for the in-situ enhancement of anaerobic degradation processes. Data from the HRC development stage and early commercial applications were presented in the International Environmental Technology Expo'99, hosted by the NJDEP in April 1999. Haley & Aldrich has conducted one of first field applications of HRC in New Jersey at an industrial facility in Moonachie. The HRC injection was completed in May 1999 and monthly testing of indicator parameters shows that anaerobic conditions are being produced due to HRC injection, which should enhance the degradation of the dissolved chlorinated VOCs present in the groundwater. The site is referred to as Crest-Foam Corp. and the NJDEP case manager on this ISRA case is Mr. Richard Burgos.

10.0 2-PHASE EXTRACTION

2-Phase Extraction is an innovative remedial process patented by Xerox Corporation that combines the attributes of soil vapor extraction and groundwater recovery and has been developed for in-situ remediation of volatile organic compounds in soils and groundwater. The process operates by applying a vacuum (typically high vacuum >25"Hg) below the water table to simultaneously extract groundwater and soil vapor. This process has been successfully implemented on sites throughout the United States, Canada, and Europe, with varying geologic conditions and contaminants, and has been proven to accelerate site remediation process and reduce overall project life cycle costs. This section will provide details on process descriptions, regulatory acceptance of the technology and the results of the 2-Phase pilot test conducted at the Hexcel site.

10.1 Process Description

2-Phase Extraction simultaneously recovers groundwater and soil vapor under high vacuum from a modified conventional recovery well. Groundwater and soil vapors that enter the well under vacuum are removed from the well casing. The 2-Phase Extraction process accelerates groundwater extraction rates, the removal of volatile contaminants present as free product (NAPLs), and enhances partitioning of soil vapors and materials sorbed to the soil. The bulk of the volatile contaminants present in groundwater recovered by 2-Phase are stripped during extraction. The contaminant mass originally in groundwater is transferred to the vapor phase. The contaminant mass recovered can be greater than that would be achieved with conventional pump and treat technology as all contaminant phases can be simultaneously influenced during extraction. An additional benefit as compared to other conventional groundwater remedial technologies is that there is no groundwater extraction pump required within the recovery well, which also eliminates the need for electrical or pneumatic connections. The extraction wells within the contaminant plume are fitted with an extraction tube to access the contamination zone at depth. Extraction wells are conventionally constructed wells, and can be retrofitted from existing monitoring wells in some cases.

The 2-Phase Extraction process achieves enhanced mass removal by accessing all contaminant phases simultaneously. These phases typically consist of dissolved constituents in groundwater, non-aqueous phase liquids (NAPL), soil vapor, and/or materials sorbed to soils above and below the original saturated zone. The contaminant mass that is extracted is stripped from the groundwater and transferred into the vapor phase, where treatment is more cost effective. 2-Phase Extraction relies on the following major mass removal mechanisms for in-situ remediation of soil and groundwater:

i.) Increased airflow in previously saturated and capillary zones
- Application of vacuum allows for capillary pressures to be overcome, forcing the release of retained water and residual product.
- Once the soils are dewatered, the formation is then open to the airflow created by the high vacuum system.
- Application of high vacuums creates a large driving force for airflow in the vadose and the dewatered zones.

ii.) Increased groundwater recovery rates
- Application of high vacuum allows for increased pumping rate by increasing the net hydraulic head differential.

iii.) Increased recoverability of free-phase product
- Enhanced recovery of residual product trapped due to the heterogeneity within the formation.
- For LNAPL, airflow created along the free product/vadose zone interface will cause increased partitioning from the free-phase to the vapor phase.
- For DNAPL, in low permeability formations or with additional groundwater control, 2-Phase Extraction is capable of drawing the phreatic surface down to the confining layer. This allows for the target zone, which typically would be the at the confining layer for DNAPL, to be accessible to airflow and drainage from capillaries resulting in contaminated vapor and water recovery from the most contaminated zone in the formation.

10.2 Pilot Test Results

A pilot test was performed at the southwest corner of the site (near intersection of Main Street and Molnar Road), designated as AOC-1A, to evaluate the viability of the 2-Phase technology at this area. Due to the thinning of the silt layer, running sands, and subsurface structures (utility beds and steam tunnel), it was anticipated that vapor and groundwater flows would be higher than at other portions of the site and pose the most difficulty for the 2-Phase technology.

The pilot test results indicate successful contaminant removal occurred with mass removal rates approximately 40 times greater in vapors than in groundwater illustrating its superior effectiveness over conventional pump and treat. The contaminated vapors recovered during the pilot test corresponded to approximately 7.4 pounds/hour of product recovery compared to 0.18 pounds/hour in the recovered contaminated water. This demonstrated that with the conditions observed during the pilot test, the 2-Phase Extraction system was 40 times more effective than a conventional pump and treat system. The pilot test was performed on two existing wells; CW-5 and MW-17. The details of the pilot test procedures are provided in Appendix C. The results of the pilot test on each of the wells are presented below.

Well CW-5 - Extraction Well

Duration: 110-minutes
Average Vapor Flow Rate: 125-scfm
Average Water Flow Rate: 3.4-gpm
Vacuum Applied at Vacuum Truck: 13-in-Hg
Vacuum at Well Head: 6-in-Hg
Vacuum on Well Screen: 2-in-Hg
Contaminant Removal Rate in Vapor: 7.36-lbs/hour
Contaminant Removal Rate in Water: 0.18-lbs/hour
Groundwater Drawdown in Observation Wells*: ≤ 0.1-feet in all wells
Vacuum in Observation Wells*: 1.0-in-H_2 at MW-22, ≤ 1.0-in-$H_2$0 in all other wells

Well MW-17 - Extraction Well

Duration: 265-minutes
Average Vapor Flow Rate: 120-scfm
Average Water Flow Rate: 2-gpm
Vacuum Applied at Vacuum Truck: 12-in-Hg
Vacuum at Well Head: 6-in-Hg
Vacuum on Well Screen: 3-in-Hg
Contaminant Removal Rate in Vapor: 2.06-lbs/hour
Contaminant Removal Rate in Water: 0.24-lbs/hour
Groundwater Drawdown in Observation Wells*: 1-foot in MW-1, ≤ 0.1-feet in all other wells
Vacuum in Observation Wells*: ≤ 1.0-in-H_2O in all wells

* - Observation wells included CW-6, MW-22, MW-17 and MW-1 for the CW-5 pilot test and MW-1, CW-6, CW-5, MW-22, and CW-4 for the MW-17 pilot test.

As was expected, the AOC-1A area yielded high vapor and water flow rates. The high vapor and water flow rates may be attributed to the thinning of the silt layer, the presence utility beds (water and sewer) and other subsurface structures along Main Street. Although there was a loss of vacuum due to the high vapor and water flow rates, the contaminant removal rates were substantially higher than those expected from a conventional pump and treat or a dual-pump system. Based on the measurements collected during the pilot test results, it is believed that the addition of a subsurface low-permeable containment structure (sheetpiling) around the treatment area in AOC-1A would enhance the efficiency of contaminant removal by reducing venting through utilities and from adjacent properties. Installation of sheetpiling around the perimeter of the extraction area at AOC-1A should result in a reduction of water and vapor flow rates. This reduction in the vapor flow would likely increase the vacuum on the well screen by three times or more, confining the vacuum to the target area and equate to a comparable increase in contaminant removal rates. The need for installation of a containment structure at other 2-Phase Extraction areas will be evaluated based on the subsurface information collected during the pre-construction phase.

10.3 Site-Specific Application

This section provides details on the application of the 2-Phase technology for the site including the preliminary design parameters, description of the 2-Phase process, air and groundwater treatment processes and system monitoring. The discussion of the application is provided under the following sub-sections.

- Pre-Construction Tasks
- Strategy for Implementation
- Remedial Application Description
- Performance Monitoring
- Permit Requirements
- Additional Areas of Application

10.3.1 Pre-Construction Tasks

Prior to the installation of the 2-Phase system, a subsurface investigation will be performed which will include performing borings in the extraction area. The subsurface investigation will be tailored to collect information for the configuration and the possible installation of the sheet piling and additional extraction/monitoring well, where necessary. Additionally, information, such as the conditions of the confining layer, will be noted along with the depth at which the confining layer is encountered.

Following the subsurface investigation, additional extraction/monitoring wells will be installed in target areas, where necessary. Refer to Figure 13, for proposed extraction well locations for AOC-1A. These locations are approximate and actual locations will be determined by field conditions.

Wells in the target area and the vicinity will be sampled prior to the implementation of the 2-Phase technology. Approximately six to eight wells will be sampled for VOCs (VO+10 by Method 624) and PCBs (Method 608). The data from this sampling event will be utilized as the baseline for comparison after remediation.

Based upon the information available, the 2-Phase system will be designed and project specifications will be developed prior to installation. Based on the measurements collected during the pilot test results, it is believed that the addition of a subsurface low-permeable containment structure (sheetpiling) around the treatment area in AOC-1A would enhance the efficiency of contaminant removal by reducing venting through utilities and from adjacent properties. Based on the available sub-surface information for the specific area of application, specifications will be developed for the containment structure, if needed. The sheetpiling structure for the area will be removed following the termination of the 2-Phase operation.

The design and project specifications will include the following:

- Configuration of the sheet piling and extraction/monitoring wells

- Equipment specifications for the 2-Phase system, and groundwater and vapor treatment system components

- Design layout for the 2-Phase Extraction system, and groundwater and vapor treatment components

10.3.2 Strategy for Implementation

As discussed in Section 7.1, the source areas have been divided into six (6) separate areas for application of 2-Phase Extraction technology (AOC-1A through AOC-1F). The 2-Phase

Extraction will be implemented in a stepwise approach, commencing at the most upgradient area and proceeding to further downgradient areas. The proposed strategy for this site is to initiate 2-Phase Extraction at AOC-1A (Section 7.1, Figure 13). Prior to 2-Phase application in an area, a containment structure will be constructed for that area if needed. The duration for which the 2-Phase Extraction operation is continued in a certain area will depend on the baseline concentrations, the efficiency of the system, and the performance criteria (Section 10.3.4). The containment structure for each area will be removed following the termination of the 2-Phase operation in that area.

10.3.3 Remedial Application Description

The conceptual process arrangement is shown in Figure 14 below and the process is schematically shown on Figure 15 (attached). The existing warehouse building will contain all the equipment for the 2-Phase Extraction skid and the treatment components. The vapor capacity and the motor sizing for the 2-Phase Extraction skid will be developed during the design phase. The skid will include a self-contained seal oil circulation system; an inlet separator to separate the water and vapor phases; a water transfer pump with filters; a vapor conditioning system, if required; and a common control panel with emergency shutdowns.

The water and vapor recovered and separated at the skid will undergo treatment prior to their respective discharge points. We anticipate the water treatment components to include air stripper(s), granular-activated carbon vessel(s), and filter units to achieve the appropriate discharge limits for the effluent to the Passaic Valley Sewerage Commissioners (PVSC) sewer line. The vapor treatment components will include a catalytic or thermal oxidizer and a scrubber to achieve the permit limits for VOCs and acid gas emissions at the discharge stack.

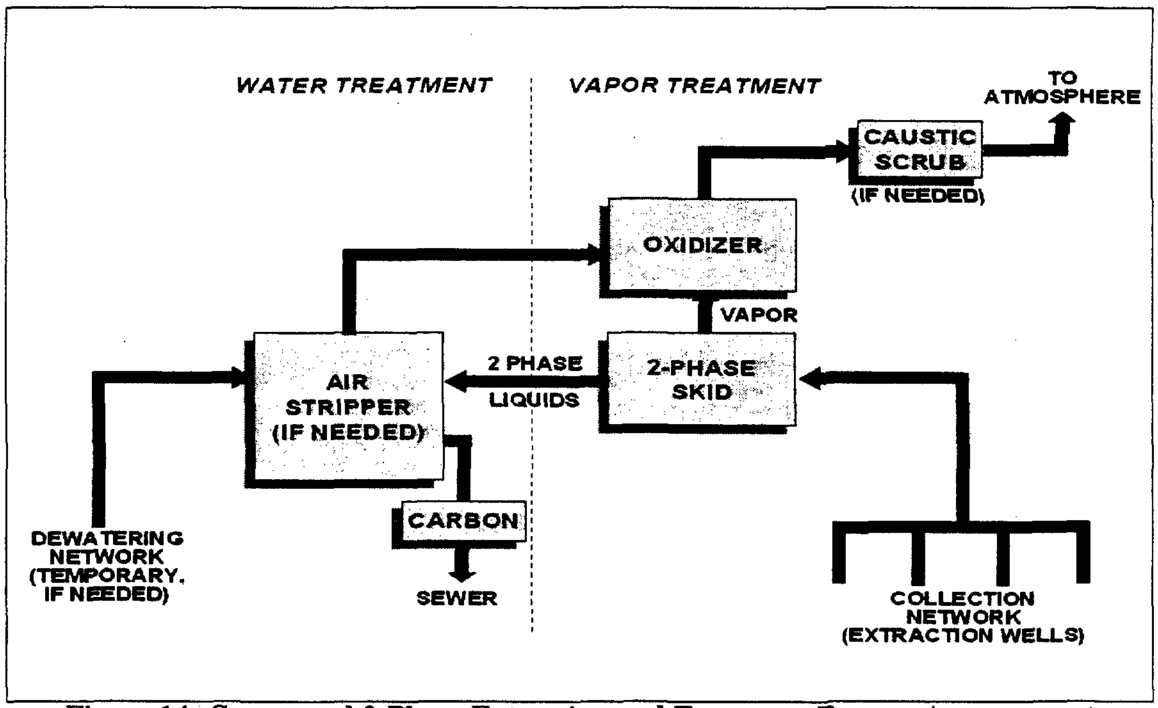

Figure 14: Conceptual 2-Phase Extraction and Treatment Process Arrangement

The 2-Phase Extraction wells will be cycled depending on flow rates and vacuum levels on the well screen to optimize the operation of the vacuum pump. The wells that are not operating will be used as observation wells, to evaluate the vacuum influence and water levels on the site. The piping header will transfer the recovered water and vapor to the treatment system located in the existing warehouse building. The treated groundwater will be discharged to the PVSC sewer line. The treated vapor will be discharged to the atmosphere in compliance with the air permitting requirements.

10.3.4 Performance Monitoring

The proposed performance monitoring for the remedial system will include operational data for the extraction and treatment equipment and analysis of the recovered groundwater and soil vapor. Additionally, the effectiveness of the 2-Phase Extraction process will be assessed by sampling and analysis of the groundwater within the anticipated remedial zone, and where appropriate, observations for NAPLs.

Operational data of the equipment will be collected and recorded to maintain that the equipment is operating optimally. The data to be collected includes, groundwater flow, vapor flow, operating vacuum and pressures throughout the system, and operating temperatures throughout the system. This data will insure that the equipment is maintained at proper intervals and project scheduled down times for maintenance reasons. Initially, it is planned to collect this data one to two times per week at start-up then decrease to weekly, then monthly thereafter.

During the operation of the 2-Phase system, vapor and groundwater samples will be collected and tested for VOCs to verify and monitor mass removal rates. This data shall also be used to determine the treatment efficiencies and carbon loading. The analytical concentrations and the corresponding flow rates will be used to calculate the mass removal rates. The sampling frequency and required analytical methods will comply with the permits that are required. The frequency of the sampling events will be higher during the beginning of the system operation to develop a preliminary estimate of likely remedial duration and subsequently become lower over the duration of the operation. When concentrations in the vapor and water reach asymptotic conditions, the operation of the 2-Phase system will be terminated.

Groundwater monitoring will include the wells that are sampled as the baseline and will be periodically sampled for VOCs to determine the effectiveness of the extraction system. Initially, the periodic sampling will occur quarterly, until the system effectiveness is predicted and then the sampling frequency will be reduced to semi-annually. During the groundwater sampling, groundwater elevations will be also collected to evaluate the capture zone.

In the LNAPL and DNAPL source areas, wells will be monitored for NAPL presence using an interface probe. The product monitoring will be conducted at the time of weekly site visits. Additionally, we plan to investigate DNAPL presence and collect groundwater samples for VOC analyses using alternative groundwater sampling techniques (for example, temporary well points) at locations within the area of 2-Phase implementation. The data from the temporary points, in addition to the data from the monitoring wells, will enable us to evaluate the groundwater quality and observations for DNAPL over the area of the application. This will also allow us to assess if the data from the wells is representative of the area.

10.3.5 Permits Required

Several permits will be obtained prior to the construction and operation of the 2-Phase Extraction System, and the groundwater and vapor treatment components as listed below:

- Sewer Use Permit: At the request of the PVSC, the Sewer Permit was terminated in November 1998 when the groundwater treatment system was dismantled prior to demolition activities. Therefore, the PVSC Sewer Use Permit will be re-instated by completing a new Sewer Use Permit Application to the PVSC. Additionally, a Treatment Works Approval (TWA) will be obtained since the discharge to the PVSC sewer is expected to exceed 8,000 gallons per day.

- Air Permit will be required for the VOC emissions from the 2-Phase Extraction system. As discussed in Section 10.3.3, the vapor phase from the 2-Phase Extraction will be treated using a Catalytic or a Thermal Oxidizer. An application for the construction and operation of the 2-Phase Extraction system will be submitted to the NJDEP's Bureau of New Source Review.

- Air Permit will also be required for the vapor phase VOC emissions from the air-stripping of the recovered groundwater. Hexcel has a temporary air permit in place for operation of the existing groundwater treatment system. Due to the change in the location of the groundwater treatment system (from Building 1 pit to the Warehouse), a minor modification request will be submitted for the existing air permit.

11.0 HYDROGEN RELEASE COMPOUND

Hydrogen Release Compound™ (HRC™) application has been evaluated for the Hexcel site as a "polishing" step to achieve the site-specific cleanup objectives, if needed, following the 2-Phase Extraction application. HRC is a proprietary product of Regenesis, Inc., who also markets Oxygen Release Compound™ (ORC™). HRC is food quality polylactate ester that releases lactic acid upon hydration. Indigenous anaerobic microbes metabolize the lactic acid and produce hydrogen, which can in turn be used by reductive dehalogenators to dechlorinate the chlorinated aliphatic hydrocarbons (CAHs), such as PCE, TCE, TCA dissolved in groundwater. At the present time, HRC applications are fairly new but seem to be gaining regulatory acceptance. The HRC application technology will be further assessed upon completion of the 2-Phase application at the site to evaluate its site-specific applicability for the Hexcel site.

12.0 REMEDIATION GOALS

The remedial strategy for the site has been developed to achieve the site-specific remediation goals, which are consistent with the technical regulations and the remediation requirements stated by the NJDEP, in its 27 May 1998 letter to Hexcel. Specifically, the NJDEP had advised that, for consistency with remediation requirements for the Napp Technologies, Inc. site, Hexcel shall:

a. Contain or remove all site-related free and residual LNAPL and DNAPL, both above and below the water table, pursuant to the Technical Requirements for Site Remediation (TRSR, N.J.A.C. 7:26E-6.1(d)];

b. Contain and remove all additional site-related sources of ground water contamination to the extent necessary to successfully complete a natural remediation program that has been performed in accordance with the TRSR [N.J.A.C. 7:26E-6.3(d);

c. Perform whatever actions are necessary to prevent site-related exceedances of FW2 Surface Water Quality Criteria (SWQC) of the Surface Water Quality Standards (N.J.A.C. 7:9B) within the Saddle River.

The remedial plan presented in this RAWA is consistent with the above-listed objectives. Specifically, as presented in the discussion of AOC-1 (Section 7.1), source areas of LNAPL and DNAPL, and additional areas of soil and groundwater contamination have been identified for remediation by implementation by 2-Phase Extraction. Upon completion of the 2-Phase, site related sources will have been removed or contained sufficiently to complete a natural remediation program. The site-specific remediation performance criteria to achieve the requirements listed in items a), b), and c) above will be evaluated as discussed below.

The success in achieving the remediation requirement listed in the item a) above will be evaluated as follows:

- Removal of free product (LNAPL and DNAPL): 2-Phase Extraction will be applied in the shallow formation in areas of LNAPL and DNAPL which will remove NAPL as is practical for in-situ technologies, and lead to an improvement in the groundwater quality at the site. This performance objective will be measured by monitoring the wells in each source area for presence of product and by the indication of asymptotic conditions of VOCs concentrations in recovered vapor and water in each target area.

- In addition to monitoring of the wells in each target area, groundwater samples will be collected from additional locations in the target area to evaluate groundwater quality over the area. Groundwater concentrations will be less than 1% of a compounds solubility, at a minimum.

The success in achieving the remediation requirement listed in the item b) above will be evaluated as follows:

- No increasing trend in the lower overburden (deep aquifer): The success of the groundwater remediation activities will also be evaluated based on the groundwater quality in the lower aquifer. Hexcel will continue to monitor the deep wells for VOCs and commence monitoring of a newly installed bedrock well, subsequent to shallow remediation in AOC-1A, to evaluate the success of the remediation process. The active remediation at the site will be focused towards the shallow formation where the source of contamination is present. Although concentrations of VOCs exceeding the GWQS have been detected in the deep wells, no free product has ever been detected in any of the lower overburden wells. With the implementation of the remediation activities in the shallow formation source areas, the groundwater quality in the deep formation can be expected to improve, although it may take some time for this to be demonstrated.

- Elimination of Surface Exposure to PCBs: In this RAWA, Hexcel has proposed excavation of areas with PCBs exceeding 100 ppm levels within 2 feet depth from the ground surface. Appropriate sampling will be performed to evaluate whether the post-remediation surface samples meet the 100 ppm level criteria. Additionally, the areas will be capped and a Deed Notice will be established for the areas.

- Containment of mobile subsurface PCBs and reduction in PCB concentrations: The mobility of the subsurface PCBs will be sufficiently reduced by remediation of DNAPL and LNAPL source areas. PCBs at the site have been found to be associated with both LNAPLs and DNAPLs. Hexcel proposes to re-evaluate the locations of PCB exceedances (>100 ppm) following implementation of the 2-Phase Extraction remediation process. The residual concentrations of PCBs in soil will be evaluated with respect to the impact on groundwater quality and if necessary, a petition for a risk-based alternate standard will be submitted to the regional USEPA administrator and the NJDEP case manager for consideration, should PCBs exceed accepted levels after remediation.

- Upon removal of all known site-related sources of groundwater contamination, monitoring will be consistent with a natural remediation program, and institutional and engineering controls will be applied as necessary.

The success in achieving the remediation requirement listed in the item c) above will be evaluated as follows:

- Conformance of surface water samples from the Saddle River with the SWQC: The compliance of surface water samples to the Surface Water Quality Criteria (SWQC) is a primary performance criteria of the remediation plan. Upon NJDEP's approval of surface water sampling proposal presented within this RAWA, a baseline for surface water quality will be established. With the implementation of the remediation activities, an enhancement in the surface water quality can be expected due to the reduction of contaminants discharged to the river from Hexcel, if there are no pollutants introduced to the River from upstream sources.

- No increasing trend in monitoring wells along the Saddle River: With the remediation of NAPL sources at the site, the quality of groundwater discharging into the Saddle River can be expected to improve. If it can be established that the concentrations of VOCs are not increasing in the wells along the Saddle River and if the performance criteria listed above (conformance of surface water samples from the Saddle River with the SWQC) is met, it can be expected that the site-related exceedances of SWQC will be prevented. This will fulfill the remediation requirement listed in item c) above.

13.0 REMEDIATION COSTS

Based on the proposed remedial strategy, the costs estimates for implementation of 2-Phase Extraction in the source areas, implementation of engineering and institutional controls, and additional tasks including monitoring, are provided in Table XV below. The cost estimate below assumes that the 2-Phase Extraction System will be operational for 3 years total (an average of 9 months in each source area identified, AOC-1A through AOC-1F).

Table XV: Estimated Remediation Costs

Task	Estimated Costs
Capital Costs (includes 2-Phase skid, dewatering system components, and sheetpile)	$900,000
Design, Engineering and Construction Monitoring	$250,000
Installation of 2-Phase System and Groundwater Treatment Components including connection to PVSC sewer line	$300,000
Operation and Maintenance including analytical testing for performance monitoring, electrical and gas consumption, site visits, support personnel, and PVSC discharge fees	$1,700,000 (over 3 years)
Permitting and Reporting including air and PVSC permits, Treatment Works Approval, Discharge Monitoring Reports, additional reporting and negotiations with NJDEP	$250,000
Additional tasks including excavation of surface PCBs, asphalt cover over site, groundwater and surface water monitoring, ecological assessment, bedrock investigation, closure of industrial sewer line, steam tunnel, and abandonment of production well	$1,300,000
Total Remediation Costs	**$4,700,000**

Note: The cost estimate presented in Table XV assumes that the implementation of 2-Phase in the source areas will be sufficient to achieve the site-specific remediation objectives discussed in Section 12 of the RAWA. Therefore, the cost estimate does not include the cost of an HRC application.

14.0 REMEDIATION SCHEDULE

Based on Haley & Aldrich's experience with the 2-Phase Extraction Technology, we estimate operating the 2-Phase for an average of 9 months in each of the source areas identified. As discussed earlier, the duration for which 2-Phase Extraction operation is continued in a certain area will depend on the baseline concentrations, the efficiency of the system, and the performance criteria. Assuming an average of 9- month application in each area where 2-Phase Extraction process is proposed to be applied, the estimated schedule is provided in Table XVI below.

Table XVI: Estimated Schedule for Remediation

Activity/Application	Estimated Schedule
Submission of RAWA	November 1999
NJDEP's Approval of the RAWA	February 2000
Obtain Air and Groundwater Discharge Permits; Pre-Construction Tasks; System Design; Prepare Bid Specifications; Review Proposals from Contractors; Procure Equipment Additional Investigation Activities proposed in the RAWA including groundwater sampling, surface water sampling, and ecological assessment Excavation of Surface PCBs and Post-Excavation Sampling	March 2000 through December 2000
Commence 2-Phase in AOC-1A	January 2001
Implement and Continue 2-Phase in additional source areas	3 Years (Till December 2003)
Apply HRC, if appropriate Remove PCBs, if necessary	2004
Apply Engineering and Institutional Controls including a Classification Exception Area (CEA) and Deed Notice, if required	2004 or 2005
Continued groundwater monitoring as part of the CEA	Until site-specific cleanup objectives (Section 12) are met

HALEY& ALDRICH

Boring No.:	**ST-1**	**Project No:**	74659-016
Drilling Contractor:		**Client:**	Hexcel
H&A Rep.:	MPO, RMS	**Project:**	Hexcel
Boring Method:	Environmental Sampling Probe	**Location:**	Lodi
Sampler Type:	4' sampler with plastic liner	**Date Completed:**	9/23/1998
		Page:	1 of 1

Spoon No.	PID Reading (ppm)	Spoon driven/ recovered	Depth (Feet)	Soil type	**Surface Conditions:** **Soil Description**
			0		
			1		
			2		Sampler driven to 2.5' with solid tip. Sample collected from 2.5' to 6.5'.
S-1					Top 14": Brown, coarse to fine SAND and fine GRAVEL, little Clayey Silt.
	8	48" / 39"	3		Next 8": Black, coarse to medium GRAVEL, some coarse to medium Sand.
	14		4		Bottom 17": Brown, Clayey SILT.
			5		Sample collected for chemical analyses at the top of Clayey SILT, 4.5 to 5.0 feet (@10:45 am).
			6		Boring terminated @ 6.5' bgs.
			7		
			8		
			9		
			10		
			11		
			12		

Sample Interval for Chemical Analyses

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Sheet:ST-1

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HALEY & ALDRICH

Boring No.:	ST-2	**Project No:**	74659-016
Drilling Contractor:		**Client:**	Hexcel
H&A Rep.:	MPO, RMS	**Project:**	Hexcel
Boring Method:	Environmental Sampling Probe	**Location:**	Lodi
Sampler Type:	4' sampler with plastic liner	**Date Completed:**	9/23/1998
		Page:	1 of 1

Spoon No.	PID Reading (ppm)	Spoon driven/ recovered	Depth (Feet)	Soil type	Surface Conditions: Soil Description
			0		
			1		Sampler driven to 2.5' with solid tip. Sample collected from 2.5' to 6.5'.
			2		
S-1	0	48" / 30"	3		Top 10": Dark brown, medium to fine GRAVEL and coarse to fine Sand, trace Clayey Silt.
	0		4		Bottom 20": Brown, Clayey SILT.
	0		5		Sample for chemical analyses collected at the top of Clayey SILT, 4.7 to 5.2 feet (@11:20 am).
			6		Boring terminated @ 6.5' bgs.
			7		
			8		
			9		
			10		
			11		
			12		

Sample Interval for Chemical Analyses

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Sheet:ST-2

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HALEY & ALDRICH

Boring No.:	**ST-3**	**Project No:**	74659-016
Drilling Contractor:		**Client:**	Hexcel
H&A Rep.:	MPO, RMS	**Project:**	Hexcel
Boring Method:	Environmental Sampling Probe	**Location:**	Lodi
Sampler Type:	4' sampler with plastic liner	**Date Completed:**	9/23/1998
		Page:	1 of 1

Spoon No.	PID Reading (ppm)	Spoon driven/ recovered	Depth (Feet)	Soil type	**Surface Conditions:** **Soil Description**
			0		
			1		
			2		Sampler driven to 2.5' with solid tip. Sample collected from 2.5' to 6.5'.
S-1		48" / 20"	3		
	0		4		Top 8": Brown, medium to coarse SAND, some coarse to medium Gravel. Bottom 12": Brown, Clayey SILT.
	0		5		Sample for chemical analyses collected at the top of the Clayey SILT, 5.5 to 6.0 feet (@2:30 pm).
			6		Boring terminated @ 6.5' bgs.
			7		
			8		
			9		
			10		
			11		
			12		

Sample Interval for Chemical Analyses

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Sheet:ST-3

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HALEY & ALDRICH

Boring No.:	ST-4	**Project No:**	74659-016
Drilling Contractor:		**Client:**	Hexcel
H&A Rep.:	MPO, RMS	**Project:**	Hexcel
Boring Method:	Environmental Sampling Probe	**Location:**	Lodi
Sampler Type:	4' sampler with plastic liner	**Date Completed:**	9/24/1998
		Page:	1 of 1

Spoon No.	PID Reading (ppm)	Spoon driven/ recovered	Depth (Feet)	Soil type	Surface Conditions: Soil Description
			0		
			1		Sampler driven to 2.5' with solid tip. Sample collected from 2.5' to 7.0'.
			2		
S-1		48" / 20"	3		
			4		
	0		5		Top 14": Brown, coarse to medium SAND, some medium to fine Gravel.
					Bottom 6": Brown, Clayey SILT.
	0		6		Sample for chemical analyses collected at the top of the Clayey SILT, 6.0 to 6.5 feet (@11:20 am).
					Boring terminated @ 7.0' bgs.
			7		
			8		
			9		
			10		
			11		
			12		

Sample Interval for Chemical Analyses

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Sheet:ST-4

HALEY & ALDRICH

Boring No.:	ST-5	**Project No:**	74659-016
Drilling Contractor:		**Client:**	Hexcel
H&A Rep.:	MPO, RMS	**Project:**	Hexcel
Boring Method:	Environmental Sampling Probe	**Location:**	Lodi
Sampler Type:	4' sampler with plastic liner	**Date Completed:**	9/24/1998
		Page:	1 of 1

Spoon No.	PID Reading (ppm)	Spoon driven/ recovered	Depth (Feet)	Soil type	**Surface Conditions:** **Soil Description**
			0		
			1		Sampler driven to 2.5' with solid tip. Sample collected from 2.5' to 6.5'.
			2		
S-1	0-3 ppm over the sample	48" / 36"	3		Brown, coarse to medium SAND, little fine Gravel, trace Clayey Silt.
			4		
			5		Sample for chemical analyses collected at between 5.5 to 6.0 feet depth (@10:45 am).
			6		Boring terminated @ 6.5' bgs.
			7		
			8		
			9		
			10		
			11		
			12		

Sample Interval for Chemical Analyses

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HALEY & ALDRICH

Boring No.:	**ST-6**	**Project No:**	74659-016
Drilling Contractor:		**Client:**	Hexcel
H&A Rep.:	MPO, RMS	**Project:**	Hexcel
Boring Method:	Environmental Sampling Probe	**Location:**	Lodi
Sampler Type:	4' sampler with plastic liner	**Date Completed:**	9/24/1998
		Page:	1 of 1

Spoon No.	PID Reading (ppm)	Spoon driven/ recovered	Depth (Feet)	Soil type	**Surface Conditions:** **Soil Description**
			0		
			1		
					Sampler driven to 2.5' with solid tip. Sample collected from 2.5' to 6.5'.
			2		
S-1	5-10 ppm over the sample	48" / 26"	3		Brown, coarse to fine SAND, some coarse to medium Gravel.
			4		
			5		Sample for chemical analyses collected between 5.0 to 5.5 feet depth (@ 10:20am).
			6		Boring terminated @ 6.5' bgs.
			7		
			8		
			9		
			10		
			11		
			12		

Sample Interval for Chemical Analyses

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HALEY & ALDRICH

Boring No.:	ST-7	**Project No:**	74659-016
Drilling Contractor:		**Client:**	Hexcel
H&A Rep.:	MPO, RMS	**Project:**	Hexcel
Boring Method:	Environmental Sampling Probe	**Location:**	Lodi
Sampler Type:	4' sampler with plastic liner	**Date Completed:**	9/24/1998
		Page:	1 of 1

Spoon No.	PID Reading (ppm)	Spoon driven/ recovered	Depth (Feet)	Soil type	Surface Conditions: Soil Description
			0		
			1		Sampler driven to 2.5' with solid tip. Sample collected from 2.5' to 6.5'.
			2		
S-1		48" / 25"	3		
			4		Top 13": Brown, coarse to fine GRAVEL, some coarse to medium Sand. Bottom 12": Brown, Clayey SILT; no hydrocarbon odor.
	0		5		Sample for chemical analyses collected at the top of the Clayey SILT, 5.0 to 5.5 feet (@ 9:40 am).
	0		6		Boring terminated @ 6.5' bgs.
			7		
			8		
			9		
			10		
			11		
			12		

Sample Interval for Chemical Analyses

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HALEY & ALDRICH

Boring No.:	ST-9	**Project No:**	74659-016
Drilling Contractor:		**Client:**	Hexcel
H&A Rep.:	MPO, RMS	**Project:**	Hexcel
Boring Method:	Environmental Sampling Probe	**Location:**	Lodi
Sampler Type:	4' sampler with plastic liner	**Date Completed:**	9/23/1998
		Page:	1 of 1

Spoon No.	PID Reading (ppm)	Spoon driven/ recovered	Depth (Feet)	Soil type	**Surface Conditions:** **Soil Description**
			0		
			1		Sampler driven to 2.5' with solid tip. Sample collected from 2.5' to 6.5'.
			2		
S-1	20	48" / 39"	3		Top 9": Brown and black, coarse to medium SAND, some medium to fine Gravel, trace Clayey Silt.
	< 5		4		Bottom 30": Brown, Clayey SILT. Sample for chemical analyses collected at the top of the Clayey SILT, 3.5 to 4.0 feet (@ 4:50 pm).
			5		
			6		Boring terminated @ 6.5' bgs.
			7		
			8		
			9		
			10		
			11		
			12		

Sample Interval for Chemical Analyses

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HALEY & ALDRICH

Boring No.:	**ST-8**	**Project No:**	74659-016
Drilling Contractor:		**Client:**	Hexcel
H&A Rep.:	MPO, RMS	**Project:**	Hexcel
Boring Method:	Environmental Sampling Probe	**Location:**	Lodi
Sampler Type:	4' sampler with plastic liner	**Date Completed:**	9/24/1998
		Page:	1 of 1

Spoon No.	PID Reading (ppm)	Spoon driven/ recovered	Depth (Feet)	Soil type	**Surface Conditions:** **Soil Description**
			0		
			1		Sampler driven to 2.5' with solid tip. Sample collected from 2.5' to 6.5'.
			2		
S-1		48" / 29"	3		
	0		4		Top 13": Brown, coarse to fine SAND and medium to fine Gravel.
					Bottom 16": Brown, Clayey SILT.
	0		5		Sample for chemical analyses collected at the top of the Clayey SILT, 4.7 to 5.2 feet (@ 8:55 am).
	0		6		Boring terminated @ 6.5' bgs.
			7		
			8		
			9		
			10		
			11		
			12		

Sample Interval for Chemical Analyses

File: 90\90005\Logs\Hexcel Stream Boring Logs.xls
Sheet:ST-8

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TABLES

TABLE I
SUMMARY OF SOIL SAMPLES AND TESTED PARAMETERS
Hexcel Facilty
Lodi, New Jersey

Boring ID	Date of Sampling	Company	Sample ID	Depth (ft)	Parameters Tested								
					TPH	VOs	BNs	AE	Metals	PCBs	Cyan	Phen^	Pest
102	9/1/88	Environ	536A-0102-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0102-SB02	1.5-2.0	--	--	--	--	--	Yes	--	--	--
			536A-0102-SB03	4.5-5.0	Yes	Yes	--	--	--	Yes	--	--	--
			536A-0102-SB04	6.0-6.5	Yes	Yes	--	--	--	Yes	--	--	--
			536A-0102-SB04DL	6.0-6.5	--	Yes	--	--	--	--	--	--	--
			536A-0102-SB05	6.5-7.0	Yes	--	--	--	--	Yes	--	--	--
103(MW3)	8/1/88	Environ	536A-0103-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0103-SB02	1.5-2.0	--	Yes	--	--	--	Yes	--	--	--
			536A-0103-SB03	4.5-5.0	Yes	--	--	--	--	Yes	--	--	--
			536A-0103-SB04	5.5-6.0	Yes	--	--	--	--	Yes	--	--	--
			536A-0103-SB05	7.0-7.5	Yes	--	--	--	--	Yes	--	--	--
			536A-0103-SB06	24.0-24.5	Yes	--	--	--	--	Yes	--	--	--
104(MW18)	8/1/88	Environ	536A-0104-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0104-SB02	1.5-2.0	--	--	--	--	--	Yes	--	--	--
			536A-0104-SB03	5.5-6.0	Yes	Yes	--	--	--	Yes	--	--	--
			536A-0104-SB04	6.0-6.5	Yes	Yes	--	--	--	Yes	--	--	--
			536A-0104-SB05	7.0-7.5	Yes	--	--	--	--	Yes	--	--	--
105	9/1/88	Environ	536A-0105-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0105-SB02	1.5-2.0	--	Yes	--	--	Yes	Yes	--	--	--
			536A-0105-SB22	1.5-2.0	--	--	--	--	Yes	Yes	--	--	--
			536A-0105-SB03	4.0-4.5	Yes	--	--	--	--	Yes	--	--	--
			536A-0105-SB04	6.5-7.0	Yes	--	--	--	--	Yes	--	--	--
			536A-0105-SB05	7.5-8.0	Yes	--	--	--	--	Yes	--	--	--
106	9/1/88	Environ	536A-0106-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0106-SB11	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0106-SB02	1.5-2.0	--	--	--	--	--	Yes	--	--	--
			536A-0106-SB22	1.5-2.0	--	--	--	--	--	Yes	--	--	--
			536A-0106-SB03	4.0-4.5	Yes	--	--	--	--	Yes	--	--	--
			536A-0106-SB04	6.0-6.5	Yes	--	--	--	--	Yes	--	--	--
			536A-0106-SB05	6.5-7.0	Yes	--	--	--	--	Yes	--	--	--

TABLE I
SUMMARY OF SOIL SAMPLES AND TESTED PARAMETERS
Hexcel Facilty
Lodi, New Jersey

Boring ID	Date of Sampling	Company	Sample ID	Depth (ft)	Parameters Tested								
					TPH	VOs	BNs	AE	Metals	PCBs	Cyan	Phen^	Pest
107	8/1/88	Environ	536A-0107-SB01	4.0-4.5	Yes	--	--	--	--	Yes	--	--	--
			536A-0107-SB02	6.0-6.5	Yes	Yes	--	--	--	Yes	--	--	--
			536A-0107-SB03	7.0-7.5	Yes	--	--	--	--	Yes	--	--	--
108	8/1/88	Environ	536A-0108-SB01	4.0-4.5	Yes	--	--	--	--	Yes	--	--	--
			536A-0108-SB02	6.0-6.5	Yes	Yes	--	--	--	Yes	--	--	--
			536A-0108-SB03	7.0-7.5	Yes	--	--	--	--	Yes	--	--	--
109	8/1/88	Environ	536A-0109-SB01	4.0-4.5	Yes	Yes	--	--	--	Yes	--	--	--
			536A-0109-SB02	6.0-6.5	Yes	Yes	--	--	--	Yes	--	--	--
			536A-0109-SB03	11.5-12.0	Yes	--	--	--	--	Yes	--	--	--
110	9/1/88	Environ	536A-0110-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0110-SB02	1.5-2.0	--	--	--	--	--	Yes	--	--	--
			536A-0110-SB03	5.0-5.5	Yes	--	--	--	--	Yes	--	--	--
			536A-0110-SB04	7.0-7.5	Yes	--	--	--	--	Yes	--	--	--
			536A-0110-SB05	8.0-8.5	Yes	--	--	--	--	Yes	--	--	--
113	4/20/92	Heritage	113-002	2.0-4.0	--	Yes	--	--	--	--	--	--	--
			113-003	4.0-5.0	--	Yes	Yes	Yes	Yes	Yes	Yes	--	Yes
201	9/1/88	Environ	536A-0201-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0201-SB02	1.5-2.0	--	--	--	--	--	--	--	--	--
			536A-0201-SB03	4.5-5.0	--	Yes	--	--	--	--	--	--	--
			536A-0201-SB03DL	4.5-5.0	--	Yes	--	--	--	--	--	--	--
301	9/1/88	Environ	536A-0301-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0301-SB11	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0301-SB02	1.5-2.0	--	--	--	--	--	--	--	--	--
			536A-0301-SB22	1.5-2.0	--	--	--	--	--	--	--	--	--
			536A-0301-SB03	6.0-6.5	--	--	--	--	--	--	--	--	--
302	9/1/88	Environ	536A-0302-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0302-SB11	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0302-SB02	1.5-2.0	--	Yes	--	--	--	--	--	--	--
			536A-0302-SB22	1.5-2.0	--	Yes	--	--	--	--	--	--	--
			536A-0302-SB03	6.0-6.5	--	Yes	--	--	--	--	--	--	--
			536A-0302-SB03DL	6.0-6.5	--	Yes	--	--	--	--	--	--	--

TABLE I
SUMMARY OF SOIL SAMPLES AND TESTED PARAMETERS
Hexcel Facilty
Lodi, New Jersey

Boring ID	Date of Sampling	Company	Sample ID	Depth (ft)	Parameters Tested								
					TPH	VOs	BNs	AE	Metals	PCBs	Cyan	Phen^	Pest
303(MW 4)	8/1/88	Environ	536A-0303-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0303-SB02	1.5-2.0	--	--	--	--	--	--	--	--	--
			536A-0303-SB03	5.5-6.0	--	Yes	--	--	--	--	--	--	--
			536A-0303-SB03DL	5.5-6.0	--	Yes	--	--	--	--	--	--	--
401	9/1/88	Environ	536A-0401-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0401-SB11	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0401-SB02	1.5-2.0	Yes	Yes	--	--	--	--	--	--	--
			536A-0401-SB22	1.5-2.0	--	Yes	--	--	--	--	--	--	--
			536A-0401-SB22RE	1.5-2.0	--	Yes	--	--	--	--	--	--	--
			536A-0401-SB03	5.0-5.5	Yes	Yes	--	--	--	--	--	--	--
501	9/1/88	Environ	536A-0501-SB01	0.5-1.0	Yes	--	--	--	Yes	--	--	--	--
			536A-0501-SB02	1.5-2.0	--	--	--	--	--	--	--	--	--
			536A-0501-SB03	4.5-5.0	--	Yes	--	--	Yes	--	--	--	--
			536A-0501-SB03DL	4.5-5.0	--	Yes	--	--	--	--	--	--	--
502	9/1/88	Environ	536A-0502-SB01	0.5-1.0	Yes	--	--	--	Yes	--	--	--	--
			536A-0502-SB02	1.5-2.0	--	--	--	--	--	--	--	--	--
			536A-0502-SB03	4.5-5.0	--	--	--	--	Yes	--	--	--	--
503	9/1/88	Environ	536A-0503-SB01	0.5-1.0	Yes	--	--	--	Yes	--	--	--	--
			536A-0503-SB11	0.5-1.0	Yes	--	--	--	Yes	--	--	--	--
			536A-0503-SB02	1.5-2.0	--	--	--	--	--	--	--	--	--
			536A-0503-SB03	4.5-5.0	--	--	--	--	Yes	--	--	--	--
504	9/1/88	Environ	536A-0504-SB01	0.5-1.0	Yes	--	--	--	Yes	--	--	--	--
			536A-0504-SB02	1.5-2.0	--	--	--	--	--	--	--	--	--
			536A-0504-SB03	4.5-5.0	--	--	--	--	Yes	--	--	--	--
507	4/20/92	Heritage	507-004	6.0-7.0	--	Yes	Yes	Yes	Yes	Yes	Yes	--	Yes
508	4/20/92	Heritage	508-004	6.0-8.0	Yes	--	--	--	--	Yes	--	--	--
601(MW7)	7/1/88	Environ	536A-0601-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0601-SB02	1.5-2.0	--	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
			536A-0601-SB03	5.5-6.0	--	Yes	--	--	--	--	--	--	--
			536A-0601-SB03DL	5.5-6.0	--	Yes	--	--	--	--	--	--	--
602	12/1/88	Environ	536A-0602-SB01	6.5-7.0	--	--	--	--	--	Yes	--	--	--
604	12/1/88	Environ	536A-0604-SB01	13.5-14.0	--	--	--	--	Yes	--	--	--	--

TABLE I
SUMMARY OF SOIL SAMPLES AND TESTED PARAMETERS
Hexcel Facilty
Lodi, New Jersey

Boring ID	Date of Sampling	Company	Sample ID	Depth (ft)	Parameters Tested								
					TPH	VOs	BNs	AE	Metals	PCBs	Cyan	Phen^	Pest
605	12/1/88	Environ	536A-0605-SB01	16.0-16.5	--	--	--	--	Yes	--	--	--	--
606	12/1/88	Environ	536A-0606-SB01	14.0-14.5	--	--	--	--	Yes	--	--	--	--
607	12/1/88	Environ	536A-0607-SB01	13.0-13.5	--	--	--	--	Yes	--	--	--	--
608	12/1/88	Environ	536A-0608-SB01	14.0-14.5	--	--	--	--	Yes	--	--	--	--
609	12/1/88	Environ	536A-0609-SB01	14.0-14.5	--	--	--	--	Yes	--	--	--	--
613	4/20/92	Heritage	613-001	2.0-4.0	Yes	Yes	Yes	--	--	--	--	--	--
			613-004	5.0-6.0	Yes	Yes	Yes	--	--	Yes	--	--	--
701	9/1/88	Environ	536A-0701-SB01	1.0-1.5	Yes	--	--	--	--	--	--	--	--
			536A-0701-SB02	1.5-2.0	Yes	Yes	--	--	Yes	Yes	--	--	--
			536A-0701-SB03	5.5-6.0	Yes	--	--	--	Yes	Yes	--	--	--
702	9/1/88	Environ	536A-0702-SB01	1.0-1.5	Yes	--	--	--	Yes	Yes	--	--	--
			536A-0702-SB02	1.5-2.0	Yes	--	--	--	--	--	--	--	--
			536A-0702-SB03	6.0-6.5	Yes	Yes	--	--	Yes	Yes	--	--	--
			536A-0702-SB04	11.0-11.5	--	--	--	--	--	--	--	--	--
703	9/1/88	Environ	536A-0703-SB01	1.0-1.5	Yes	--	--	--	--	--	--	--	--
			536A-0703-SB02	1.5-2.0	Yes	Yes	--	--	Yes	Yes	--	--	--
			536A-0703-SB03	6.0-6.5	Yes	--	--	--	Yes	Yes	--	--	--
704	9/1/88	Environ	536A-0704-SB01	13.0-13.5	--	--	--	--	--	--	--	--	--
705	9/1/88	Environ	536A-0705-SB01	13.0-13.5	--	--	--	--	--	--	--	--	--
706	9/1/88	Environ	536A-0706-SB01	13.0-13.5	--	--	--	--	--	--	--	--	--
708	9/1/88	Environ	536A-0708-SB01	13.0-13.5	--	--	--	--	--	--	--	--	--
801	9/1/88	Environ	536A-0801-SB01	1.0-1.5	Yes	--	--	--	--	--	--	--	--
			536A-0801-SB02	1.5-2.0	--	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
			536A-0801-SB03	4.0-4.5	--	Yes	--	--	--	--	--	--	--
901	9/1/88	Environ	536A-0901-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-0901-SB02	1.5-2.0	--	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
			536A-0901-SB02RE	1.5-2.0	--	--	Yes	Yes	--	--	--	--	--
			536A-0901-SB03	5.0-5.5	--	--	--	--	--	--	--	--	--
902	9/1/88	Environ	536A-0902-SB01	1.5-2.0	--	--	--	--	--	--	--	--	--
			536A-0902-SB02	7.5-8.0	--	Yes	--	--	--	--	--	--	--
903	9/1/88	Environ	536A-0903-SB01	1.5-2.0	--	--	--	--	--	--	--	--	--
			536A-0903-SB02	6.0-6.5	--	Yes	--	--	--	--	--	--	--

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SUMMARY OF SOIL SAMPLES AND TESTED PARAMETERS
Hexcel Facilty
Lodi, New Jersey

Boring ID	Date of Sampling	Company	Sample ID	Depth (ft)	Parameters Tested								
					TPH	VOs	BNs	AE	Metals	PCBs	Cyan	Phen^	Pest
904	9/1/88	Environ	536A-0904-SB01	1.5-2.0	--	--	--	--	--	--	--	--	--
			536A-0904-SB02	6.0-6.5	--	--	--	--	--	--	--	--	--
1001	9/1/88	Environ	536A-1001-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-1001-SB02	1.5-2.0	--	Yes	--	--	--	--	--	--	--
1002	9/1/88	Environ	536A-1002-SB01	1.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-1002-SB02	1.5-2.0	--	Yes	--	--	--	--	--	--	--
			536A-1002-SB03	5.5-6.0	Yes	--	--	--	--	--	--	--	--
1101	9/1/88	Environ	536A-1101-SB01	1.5-1.0	--	Yes	--	--	--	--	--	--	--
			536A-1101-SB02	1.5-2.0	--	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
			536A-1101-SB03	6.0-6.5	--	Yes	--	--	--	--	--	--	--
1102	9/1/88	Environ	536A-1102-SB01	1.5-2.0	--	Yes	--	--	--	--	--	--	--
			536A-1102-SB01DL	1.5-2.0	--	Yes	--	--	--	--	--	--	--
			536A-1102-SB02	5.5-6.0	--	--	--	--	--	--	--	--	--
1103	9/1/88	Environ	536A-1103-SB01	1.5-2.0	--	Yes	--	--	--	--	--	--	--
			536A-1103-SB01DL	1.5-2.0	--	Yes	--	--	--	--	--	--	--
			536A-1103-SB02	6.0-6.5	--	--	--	--	--	--	--	--	--
1301	9/1/88	Environ	536A-1301-SB01	1.5-2.0	--	--	--	--	--	--	--	--	--
1302	9/1/88	Environ	536A-1302-SB01	1.0-1.5	Yes	--	--	--	--	--	--	--	--
			536A-1302-SB02	2.0-2.5	Yes	Yes	--	--	--	Yes	--	--	--
			536A-1302-SB03	2.5-4.0	Yes	--	--	--	--	Yes	--	--	--
			536A-1302-SB04	7.0-7.5	Yes	--	--	--	--	Yes	--	--	--
1303	8/1/88	Environ	536A-1303-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-1303-SB02	1.5-2.0	Yes	Yes	--	--	--	Yes	--	--	--
1401	9/1/88	Environ	536A-1401-SB01	1.0-1.5	Yes	--	--	--	--	Yes	--	--	--
			536A-1401-SB02	1.5-2.0	Yes	Yes	--	--	--	Yes	--	--	--
			536A-1401-SB03	4.0-4.5	Yes	--	--	--	--	Yes	--	--	--
1502	6/24/87	Environ	536A-1502-SB01	6.0-7.0	Yes	Yes	--	--	--	Yes	--	--	--
			536A-1502-SB02	11.0-11.5	Yes	Yes	--	--	--	Yes	--	--	--
			536A-1502-SB03	13.5-14.0	Yes	--	--	--	--	Yes	--	--	--
1503	6/24/87	Environ	536A-1503-SB01	8.5-9.0	Yes	Yes	--	--	--	Yes	--	--	--
			536A-1503-SB02	11.5-12.0	Yes	--	--	--	--	Yes	--	--	--
1504	6/24/87	Environ	536A-1504-SB01	3.5-4.0	Yes	Yes	--	--	--	Yes	--	--	--

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TABLE I
SUMMARY OF SOIL SAMPLES AND TESTED PARAMETERS
Hexcel Facilty
Lodi, New Jersey

Boring ID	Date of Sampling	Company	Sample ID	Depth (ft)	Parameters Tested								
					TPH	VOs	BNs	AE	Metals	PCBs	Cyan	Phen^	Pest
1505	6/24/87	Environ	536A-1505-SB01	4.0-4.5	Yes	Yes	--	--	--	Yes	--	--	--
1506	8/1/88	Environ	536A-1506-SB01	0.5-1.0	Yes	--	--	--	--	--	--	--	--
			536A-1506-SB02	1.5-2.0	Yes	Yes	--	--	--	Yes	--	--	--
			536A-1506-SB03	4.5-5.0	Yes	--	--	--	--	Yes	--	--	--
			536A-1506-SB04	8.0-8.5	Yes	--	--	--	--	Yes	--	--	--
A1	8/1/85	PAS	A1-44182	0.5-2.5	Yes	Yes	--	--	--	--	--	--	--
A2	8/1/85	PAS	A2-44181	0.5-2.5	Yes	Yes	--	--	--	--	--	--	--
A3	8/1/85	PAS	A3-44180	0.5-2.5	Yes	Yes	--	--	--	--	--	--	--
A4	8/1/85	PAS	A4-44179	0.5-2.5	Yes	Yes	--	--	--	--	--	--	--
A5	8/1/85	PAS	A5-44122	2.0-2.5	Yes	Yes	--	--	--	--	--	--	--
A6	8/1/85	PAS	A6-44123	2.0-3.5	Yes	Yes	--	--	--	--	--	--	--
A7	8/1/85	PAS	A7-44124	1.3-1.7	Yes	Yes	--	--	--	--	--	--	--
A8	8/1/85	PAS	A8-44184	2.0-3.5	Yes	Yes	Yes	--	--	--	--	--	--
A9	8/1/85	PAS	A9-44185	1.0-2.5	Yes	Yes	Yes	--	--	--	--	--	--
A10	8/1/85	PAS	A10-44118	1.5-2.0	Yes	Yes	Yes	--	--	--	--	--	--
			A10-44119	3.5-4.0	Yes	Yes	--	--	--	Yes	--	--	--
A11	8/1/85	PAS	A11-44120	1.5-2.0	Yes	Yes	Yes	--	--	Yes	--	--	--
			A11-44121	3.5-4.0	Yes	Yes	--	--	--	--	--	--	--
A12	8/1/85	PAS	A12-44109	2.0-4.0	Yes	Yes	--	--	--	Yes	--	--	--
A13	8/1/85	PAS	A13-44110	2.0-4.0	Yes	Yes	--	--	--	Yes	--	--	--
A14	8/1/85	PAS	A14-44111	2.0-4.0	Yes	Yes	--	--	--	Yes	--	--	--
A15	8/1/85	PAS	A15-44401	6.0-8.0	Yes	Yes	Yes	--	--	Yes	--	--	--
B1	8/1/85	PAS	B1-44116	1.5-2.0	--	Yes	Yes	--	Yes	--	--	--	--
B2	8/1/85	PAS	B2-44183	2.5-5.0	--	Yes	Yes	--	Yes	--	--	--	--
B3	8/1/85	PAS	B3-44117	1.5-2.0	--	Yes	Yes	--	Yes	--	--	--	--
B6	6/1/84	Tenech	B6-8000	1.0-3.0	--	--	--	--	--	--	--	--	--
			B6-8001	3.0-5.0	--	--	--	--	--	--	--	--	--
			B6-8002	5.0-7.0	--	--	--	--	--	--	--	--	--
			B6-8003	7.0-8.0	--	--	--	--	--	--	--	--	--
			B6-8004	9.5-10.5	--	--	--	--	--	--	--	--	--

TABLE I
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Hexcel Facilty
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Boring ID	Date of Sampling	Company	Sample ID	Depth (ft)	Parameters Tested								
					TPH	VOs	BNs	AE	Metals	PCBs	Cyan	Phen^	Pest
B8	6/1/84	Tenech	B8-8009	2.5-5.0	--	--	--	--	--	--	--	--	--
			B8-8010	5.5-7.0	--	--	--	--	--	--	--	--	--
			B8-8011	8.0-9.0	--	--	--	--	--	--	--	--	--
B10	6/1/84	Tenech	B10-8013	3.0-5.0	--	--	--	--	--	--	--	--	--
			B10-8014	5.0-7.0	--	--	--	--	--	--	--	--	--
			B10-8015	7.0-8.0	--	--	--	--	--	--	--	--	--
			B10-8016	9.5-11.0	--	--	--	--	--	--	--	--	--
C-1	6/1/85	PAS	C-1-40317	2.0-2.5	--	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C-2	6/1/85	PAS	C-2-40318	0.5-1.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C-3	6/1/85	PAS	C-3-40319	1.5-2.0	--	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C-4	6/1/85	PAS	C-4-40320	1.5-2.0	--	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C-5	6/1/85	PAS	C-5-40321	1.5-2.0	--	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C-6	6/1/85	PAS	C-6-40332	2.0-2.5	--	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C-7	6/1/85	PAS	C-7-40323	1.5-2.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C-8	6/1/85	PAS	C-8-40324	3.5-4.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C1	8/1/85	PAS	C1-44186	1.0-3.0	--	Yes	Yes	--	--	--	--	--	--
C2	8/1/85	PAS	C2-44187	2.0-4.5	--	Yes	Yes	--	--	--	--	--	--
C3	8/1/85	PAS	C3-44188	1.0-2.0	--	Yes	Yes	--	--	--	--	--	--
D1	8/1/85	PAS	D1-44125	2.0-2.5	--	Yes	Yes	--	Yes	--	--	--	--
D2	8/1/85	PAS	D2-44126	2.0-2.5	--	Yes	Yes	--	Yes	--	--	--	--
D3	8/1/85	PAS	D3-44127	2.0-2.5	--	--	--	--	Yes	--	--	--	--
D4	8/1/85	PAS	D4-44128	2.0-2.5	--	Yes	Yes	--	Yes	--	--	--	--
E1	8/1/85	PAS	E1-44189	0.5-2.5	Yes	--	--	--	Yes	--	--	--	--
E2	8/1/85	PAS	E2-44190	1.0-3.5	Yes	--	--	--	Yes	--	--	--	--
E3	8/1/85	PAS	E3-44191	1.0-2.5	Yes	--	--	--	Yes	--	--	--	--
F1	8/1/85	PAS	F1-44403	1.0-1.0	--	Yes	Yes	--	--	--	--	--	--
F2	8/1/85	PAS	F2-44404	1.0-1.0	--	Yes	Yes	--	--	--	--	--	--
F3	8/1/85	PAS	F3-44405	1.0-1.0	--	Yes	Yes	--	--	--	--	--	--
G1	8/1/85	PAS	G1-44112	0.0-2.0	--	Yes	Yes	--	--	--	--	--	--
G2	8/1/85	PAS	G2-44113	2.0-3.0	--	Yes	Yes	--	--	--	--	--	--
G3	8/1/85	PAS	G3-44114	2.0-3.0	--	Yes	Yes	--	--	--	--	--	--
G4	8/1/85	PAS	G4-44115	0.0-2.0	--	Yes	Yes	--	--	--	--	--	--

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Lodi, New Jersey

Boring ID	Date of Sampling	Company	Sample ID	Depth (ft)	Parameters Tested								
					TPH	VOs	BNs	AE	Metals	PCBs	Cyan	Phen^	Pest
BR-UST-B	6/1/91	Heritage	BR TANK BOTTOM	10.0-10.0	Yes	Yes	--	--	--	Yes	--	--	--
BR-UST-E	6/1/91	Heritage	BR TANK EAST	5.0-5.0	Yes	Yes	--	--	--	Yes	--	--	--
BR-UST-N	6/1/91	Heritage	BR TANK NORTH	5.0-5.0	Yes	Yes	--	--	--	Yes	--	--	--
BR-UST-S	6/1/91	Heritage	BR TANK SOUTH	5.0-5.0	Yes	Yes	--	--	--	Yes	--	--	--
BR-UST-W	6/1/91	Heritage	BR TANK WEST	5.0-5.0	Yes	Yes	--	--	--	Yes	--	--	--
GAS-UST-B	6/1/91	Heritage	REAR TANK BOTTOM	6.0-6.0	Yes	Yes	Yes	Yes	--	Yes	--	--	--
GAS-UST-E	6/1/91	Heritage	REAR TANK EAST	3.0-4.0	Yes	Yes	Yes	Yes	--	Yes	--	--	--
GAS-UST-N	6/1/91	Heritage	REAR TANK NORTH	5.0-5.0	Yes	Yes	Yes	Yes	--	Yes	--	--	--
GAS-UST-S	6/1/91	Heritage	REAR TANK SOUTH	5.0-5.0	Yes	Yes	Yes	Yes	--	Yes	--	--	--
GAS-UST-W	6/1/91	Heritage	REAR TANK WEST	3.0-4.0	Yes	Yes	Yes	Yes	--	Yes	--	--	--
HS-1	11/1/90	Heritage	HS-1 #002	3.0-5.0	--	--	--	--	--	--	--	--	--
			HS-1 #004	7.0-9.0	--	--	--	--	--	--	--	--	--
			HS-1 #006	11.0-13.0	--	--	--	--	--	--	--	--	--
			HS-1 #007	13.0-15.0	--	Yes	--	--	--	--	--	--	--
HS-2	11/1/90	Heritage	HS-2 #002	1.0-3.0	--	--	--	--	--	--	--	--	--
			HS-2 #003	3.0-5.0	--	--	--	--	--	--	--	--	--
			HS-2 #004	5.0-7.0	--	Yes	--	--	--	--	--	--	--
HS-3	11/1/90	Heritage	HS-3 #003	5.0-7.0	--	--	--	--	--	--	--	--	--
			HS-3 #004	7.0-9.0	--	Yes	--	--	--	--	--	--	--
HS-4	11/1/90	Heritage	HS-4 #002	3.0-5.0	--	--	--	--	--	--	--	--	--
			HS-4 #003	5.0-7.0	--	--	--	--	--	--	--	--	--
			HS-4 #005	9.0-11.0	--	Yes	--	--	--	--	--	--	--
HS-5	11/1/90	Heritage	HS-5 #003	5.0-7.0	--	--	--	--	--	--	--	--	--
			HS-5 #006	11.0-13.0	--	Yes	--	--	--	--	--	--	--
HS-6	11/1/90	Heritage	HS-6 #001	1.0-3.0	--	--	--	--	--	--	--	--	--
			HS-6 #003	5.0-7.0	--	--	--	--	--	--	--	--	--
			HS-6 #006	13.0-15.0	--	Yes	--	--	--	--	--	--	--
HS-8	11/1/90	Heritage	HS-8 #001	2.0-4.0	--	--	--	--	--	--	--	--	--
			HS-8 #002	4.0-6.0	--	--	--	--	--	--	--	--	--
			HS-8 #003	6.0-8.0	--	Yes	--	--	--	--	--	--	--

88214004 8

TABLE I

SUMMARY OF SOIL SAMPLES AND TESTED PARAMETERS

Hexcel Facilty

Lodi, New Jersey

Boring ID	Date of Sampling	Company	Sample ID	Depth (ft)	Parameters Tested								
					TPH	VOs	BNs	AE	Metals	PCBs	Cyan	Phen^	Pest
HS-9	11/1/90	Heritage	HS-9 #003	5.0-7.0	--	--	--	--	--	--	--	--	--
			HS-9 #004	7.0-8.5	--	--	--	--	--	--	--	--	--
			HS-9 #004B	8.5-9.0	--	Yes	--	--	--	--	--	--	--
HS-10	11/1/90	Heritage	HS-10 #002	3.0-5.0	--	--	--	--	--	--	--	--	--
			HS-10 #003	5.0-7.0	--	Yes	--	--	--	--	--	--	--
BG01(MW01	7/1/88	Environ	536A-BG01-SB01	5.5-6.0	--	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MW33	4/20/92	Heritage	MW33-004	6.0-8.0	--	Yes	Yes	Yes	Yes	Yes	Yes	--	Yes
			MW33-008	14.0-16.0	--	Yes	Yes	Yes	Yes	Yes	Yes	--	Yes
HA-1	7/30/98	H&A	HA-1-0.1-0.6	0.1-0.6	--	--	--	--	--	Yes	--	--	--
			HA-1-4.0-4.5	4.0-4.5	--	--	--	--	--	Yes	--	--	--
HA-2	7/30/98	H&A	HA-2-1.0-1.5	1.0-1.5	--	--	--	--	--	Yes	--	--	--
			HA-2-2.0-2.5	2.0-2.5	--	--	--	--	--	Yes	--	--	--
			HA-2-5.5-6.0	5.5-6.0	--	--	--	--	--	Yes	--	--	--
			DUP-1	5.5-6.0	--	--	--	--	--	Yes	--	--	--
HA-3	7/30/98	H&A	HA-3-1.5-2.0	1.5-2.0	--	--	--	--	--	Yes	--	--	--
			HA-3-6.5-7.0	6.5-7.0	--	--	--	--	--	Yes	--	--	--
			HA-3-9.0-9.5	9.0-9.5	--	--	--	--	--	Yes	--	--	--
HA-4	7/30/98	H&A	HA-4-2.0-2.5	2.0-2.5	--	--	--	--	--	Yes	--	--	--
			HA-4-6.0-6.5	6.0-6.5	--	--	--	--	--	Yes	--	--	--
HA-5	7/30/98	H&A	HA-5-1.0-1.5	1.0-1.5	--	--	--	--	--	Yes	--	--	--
			DUP-2	1.0-1.5	--	--	--	--	--	Yes	--	--	--
			HA-5-5.0-5.5	5.0-5.5	--	--	--	--	--	Yes	--	--	--
			HA-5-7.0-7.5	7.0-7.5	--	--	--	--	--	Yes	--	--	--
HA-6	7/29/98	H&A	HA-6-2.5-3.0	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-6-9.0-9.5	9.0-9.5	--	--	--	--	--	Yes	--	--	--
			HA-6-11.5-12.0	11.5-12.0	--	--	--	--	--	Yes	--	--	--
HA-7	7/29/98	H&A	HA-7-1.5-2.0	1.5-2.0	--	--	--	--	--	Yes	--	--	--
			HA-7-9.0-9.5	9.0-9.5	--	--	--	--	--	Yes	--	--	--
			HA-7-13.0-13.5	13.0-13.5	--	--	--	--	--	Yes	--	--	--
HA-8	7/29/98	H&A	HA-8-2.5-3.0	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-8-13.0-13.5	13.0-13.5	--	--	--	--	--	Yes	--	--	--

TABLE I
SUMMARY OF SOIL SAMPLES AND TESTED PARAMETERS
Hexcel Facilty
Lodi, New Jersey

Boring ID	Date of Sampling	Company	Sample ID	Depth (ft)	Parameters Tested								
					TPH	VOs	BNs	AE	Metals	PCBs	Cyan	Phen^	Pest
HA-9	7/29/98	H&A	HA-9-10.0-10.5	10.0-10.5	--	--	--	--	--	Yes	--	--	--
			HA-9-14..5-15.0	14.5-15.0	--	--	--	--	--	Yes	--	--	--
HA-10	7/29/98	H&A	HA-10-1.5-2.0	1.5-2.0	--	--	--	--	--	Yes	--	--	--
			HA-10-9.0-9.5	9.0-9.5	--	--	--	--	--	Yes	--	--	--
			HA-10.11.0-11.5	11.0-11.5	--	--	--	--	--	Yes	--	--	--
HA-11	7/30/98	H&A	HA-11-0.0-0.5	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-11-5.5-6.0	5.5-6.0	--	--	--	--	--	Yes	--	--	--
HA-12	7/30/98	H&A	HA-12-0.0-0.5	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-12-2.5-3.0	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-12-6.0-6.5	6.0-6.5	--	--	--	--	--	Yes	--	--	--
HA-13	7/30/98	H&A	HA-13-0.0-0.5	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-13-2.8-3.3	2.8-3.3	--	--	--	--	--	Yes	--	--	--
			HA-13-13.0-13.5	13.0-13.5	--	--	--	--	--	Yes	--	--	--
HA-14	7/30/98	H&A	HA-14-0.8-1.3	0.8-1.3	--	--	--	--	--	Yes	--	--	--
			HA-14-8.0-8.5	8.0-8.5	--	--	--	--	--	Yes	--	--	--
			HA-14-15.5-16.0	15.5-16.0	--	--	--	--	--	Yes	--	--	--
HA-15	7/30/98	H&A	HA-15-8.0-8.5	8.0-8.5	--	--	--	--	--	Yes	--	--	--
			HA-15-12.5-13.0	12.5-13.0	--	--	--	--	--	Yes	--	--	--
HA-16	7/31/98	H&A	HA-16-2.5-3.0	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			DUP-3	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-16-13.5-14.0	13.5-14.0	--	--	--	--	--	Yes	--	--	--
HA-17	7/31/98	H&A	HA-17-4.5-5.0	4.5-5.0	--	--	--	--	--	Yes	--	--	--
			HA-17-8.5-9.0	8.5-9.0	--	--	--	--	--	Yes	--	--	--
			HA-17-10.0-10.5	10.0-10.5	--	--	--	--	--	Yes	--	--	--
HA-18	7/31/98	H&A	HA-18-6.5-7.0	6.5-7.0	--	--	--	--	--	Yes	--	--	--
			HA-18-11.0-11.5	11.0-11.5	--	--	--	--	--	Yes	--	--	--
HA-19	7/31/98	H&A	HA-19-9.0-9.5	9.0-9.5	--	--	--	--	--	Yes	--	--	--
			HA-19-13.0-13.5	13.0-13.5	--	--	--	--	--	Yes	--	--	--
HA-20	7/30/98	H&A	HA-20-1.0-1.5	1.0-1.5	--	--	--	--	--	Yes	--	--	--
			HA-20-5.5-6.0	5.5-6.0	--	--	--	--	--	Yes	--	--	--
HA-21	7/31/98	H&A	HA-21-5.5-6.0	5.5-6.0	--	--	--	--	--	Yes	--	--	--
			HA-21-11.0-11.5	11.0-11.5	--	--	--	--	--	Yes	--	--	--

TABLE I
SUMMARY OF SOIL SAMPLES AND TESTED PARAMETERS
Hexcel Facilty
Lodi, New Jersey

Boring ID	Date of Sampling	Company	Sample ID	Depth (ft)	Parameters Tested								
					TPH	VOs	BNs	AE	Metals	PCBs	Cyan	Phen^	Pest
HA-22	7/31/98	H&A	HA-22-1.0-1.5	1.0-1.5	--	--	--	--	--	Yes	--	--	--
			HA-22-8.0-8.5	8.0-8.5	--	--	--	--	--	Yes	--	--	--
HA-23	8/28/98	H&A	HA-23-2.5-3.0	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-23-8.0-8.5	8.0-8.5	--	--	--	--	--	Yes	--	--	--
			HA-23-10.8-11.3	10.8-11.3	--	--	--	--	--	Yes	--	--	--
HA-24	8/28/98	H&A	HA-24-8.5-9.0	8.5-9.0	--	--	--	--	--	Yes	--	--	--
			HA-24-11.0-11.5	11.0-11.5	--	--	--	--	--	Yes	--	--	--
HA-25	8/28/98	H&A	HA-25-7.5-8.0	7.5-8.0	--	--	--	--	--	Yes	--	--	--
			HA-25-11.3-11.8	11.3-11.8	--	--	--	--	--	Yes	--	--	--
HA-26	8/28/98	H&A	HA-26-10.5-11.0	10.5-11.0	--	--	--	--	--	Yes	--	--	--
			HA-26-17.5-18.0	17.5-18.0	--	--	--	--	--	Yes	--	--	--
HA-27	8/28/98	H&A	HA-27-2.5-3.0	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-27-8.5-9.0	8.5-9.0	--	--	--	--	--	Yes	--	--	--
			HA-27-12.0-12.5	12.0-12.5	--	--	--	--	--	Yes	--	--	--
H-28	8/28/98	H&A	HA-28-2.0-2.5	2.0-2.5	--	--	--	--	--	Yes	--	--	--
			HA-28-8.5-9.0	8.5-9.0	--	--	--	--	--	Yes	--	--	--
			HA-28-12.5-13.0	12.5-13.0	--	--	--	--	--	Yes	--	--	--
HA-29	8/28/98	H&A	HA-29-8.5-9.0	8.5-9.0	--	--	--	--	--	Yes	--	--	--
			DUP-4	8.5-9.0	--	--	--	--	--	Yes	--	--	--
			HA-29-14.5-15.0	14.5-15.0	--	--	--	--	--	Yes	--	--	--
HA-30	8/28/98	H&A	HA-30-8.5-9.0	8.5-9.0	--	--	--	--	--	Yes	--	--	--
			HA-30-15.5-16.0	15.5-16.0	--	--	--	--	--	Yes	--	--	--
HA-31	8/19/99	H&A	HA-31A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-31B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-31C	15.3-15.8	--	--	--	--	--	Yes	--	--	--
HA-32	8/19/99	H&A	HA-32A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-32B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-32C	14.5-15.0	--	--	--	--	--	Yes	--	--	--
HA-33	8/19/99	H&A	HA-33A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-33B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-33C	11.2-11.7	--	--	--	--	--	Yes	--	--	--

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TABLE I
SUMMARY OF SOIL SAMPLES AND TESTED PARAMETERS
Hexcel Facilty
Lodi, New Jersey

Boring ID	Date of Sampling	Company	Sample ID	Depth (ft)	Parameters Tested								
					TPH	VOs	BNs	AE	Metals	PCBs	Cyan	Phen^	Pest
HA-34	8/19/99	H&A	HA-34A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-34B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-34C	9.0-9.5	--	--	--	--	--	Yes	--	--	--
HA-35	8/19/99	H&A	HA-35A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-35B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-35C	10.0-10.5	--	--	--	--	--	Yes	--	--	--
HA-36	8/19/99	H&A	HA-36A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-36B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-36C	8.5-9.0	--	--	--	--	--	Yes	--	--	--
			HA-36C-Dup	8.5-9.0	--	--	--	--	--	Yes	--	--	--
HA-37	8/19/99	H&A	HA-37A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-37B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-37C	14.5-15.0	--	--	--	--	--	Yes	--	--	--
HA-38	8/19/99	H&A	HA-38A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-38B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-38C	15.5-16.0	--	--	--	--	--	Yes	--	--	--
HA-39	8/19/99	H&A	HA-39A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-39B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-39C	11.5-12.0	--	--	--	--	--	Yes	--	--	--
HA-40	8/19/99	H&A	HA-40A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-40B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-40C	15.3-15.8	--	--	--	--	--	Yes	--	--	--
HA-41	8/19/99	H&A	HA-41A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-41B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-41C	11.5-12.0	--	--	--	--	--	Yes	--	--	--
HA-42	8/19/99	H&A	HA-42A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-42B	3.0-3.5	--	--	--	--	--	Yes	--	--	--
			HA-42C	4.0-4.5	--	--	--	--	--	Yes	--	--	--
HA-43	8/19/99	H&A	HA-43A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-43B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-43C	8.0-8.5	--	--	--	--	--	Yes	--	--	--

TABLE I
SUMMARY OF SOIL SAMPLES AND TESTED PARAMETERS
Hexcel Facilty
Lodi, New Jersey

Boring ID	Date of Sampling	Company	Sample ID	Depth (ft)	Parameters Tested								
					TPH	VOs	BNs	AE	Metals	PCBs	Cyan	Phen^	Pest
HA-44	8/19/99	H&A	HA-44A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-44B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-44C	8.0-8.5	--	--	--	--	--	Yes	--	--	--
HA-45	8/19/99	H&A	HA-45A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-45B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-45C	14.0-14.5	--	--	--	--	--	Yes	--	--	--
HA-46	8/19/99	H&A	HA-46A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			HA-46B	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-46B-Dup	2.5-3.0	--	--	--	--	--	Yes	--	--	--
			HA-46C	14.5-15.0	--	--	--	--	--	Yes	--	--	--
PCB-1	6/17/99	H&A	PCB-1A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			PCB-1B	0.8-1.1	--	--	--	--	--	Yes	--	--	--
PCB-2	6/17/99	H&A	PCB-2A	0.0-0.4	--	--	--	--	--	Yes	--	--	--
PCB-3	6/17/99	H&A	PCB-3A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			PCB-3B	1.5-2.0	--	--	--	--	--	Yes	--	--	--
PCB-4	6/17/99	H&A	PCB-4A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			PCB-4B	1.5-2.0	--	--	--	--	--	Yes	--	--	--
PCB-5	6/17/99	H&A	PCB-5A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			PCB-5B	1.2-1.5'	--	--	--	--	--	Yes	--	--	--
PCB-6	6/17/99	H&A	PCB-6A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
PCB-7	6/17/99	H&A	PCB-7A	0.0-0.5	--	--	--	--	--	Yes	--	--	--
			PCB-7B	1.0-1.2	--	--	--	--	--	Yes	--	--	--
			Total Number of Samples analyzed* =		121	114	46	23	50	228	17	13	17

Notes:

*: Samples suffixed with a DL (meaning "dilution") at the end of the Sample ID are not included in the total.

^: These samples were analyzed for Total Phenols by the appropriate method; samples listed under AE were also analyzed for phenol as an Acid Extractable compound.

8821400053

TABLE II
SUMMARY OF GROUNDWATER SAMPLING
Hexcel Facility
Lodi, New Jersey

Well ID	Sample ID	Company	Date (m/yy)	AE	BN	VOA	Metals	Pest/PCBs	Phenol	Cyanide	TPH
MW-1	536A-MW01-GW01	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	536A-MW01-GW01DL	Environ	7/88	--	--	Yes	--	--	--	--	--
	536A-MW01-GW02	Environ	7/88	--	--	Yes	--	--	--	--	--
	E320255	Killam	7/93	--	--	Yes	--	--	--	--	--
	4576A-MW01-166594	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
	MW-1	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-2	536A-MW02-GW01	Environ	8/88	--	--	Yes	Yes	Yes	--	--	Yes
	536A-MW02-GW01DL	Environ	8/88	--	--	Yes	--	--	--	--	--
	536A-MW02-GW02	Environ	8/88	--	--	--	Yes	Yes	--	--	--
	E320256	Killam	7/93	--	--	Yes	--	--	--	--	--
	4576A-MW02-166601	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
	MW-2	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-3	536A-MW03-GW01	Environ	8/88	--	--	Yes	Yes	Yes	--	--	Yes
	536A-MW03-GW01RE	Environ	8/88	--	--	Yes	--	--	--	--	--
	E320257	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-3	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-4	536A-MW04-GW01	Environ	8/88	--	--	Yes	--	--	--	--	Yes
	536A-MW04-GW01DL	Environ	8/88	--	--	Yes	--	--	--	--	--
	E320258	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-4	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-5	536A-MW05-GW01	Environ	8/88	--	--	Yes	--	--	--	--	Yes
	E320259	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-5	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-6	536A-MW06-GW01	Environ	8/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	536A-MW06-GW01DL	Environ	8/88	Yes	Yes	--	--	--	Yes		--
	536A-MW06-GWDP	Environ	8/88	--	--	Yes	--	Yes	--	--	--
	E320320	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-6	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-7	536A-MW07-GW01	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	E320321	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-7	H&A	7/98	--	--	Yes	--	Yes	--	--	--

TABLE II
SUMMARY OF GROUNDWATER SAMPLING
Hexcel Facility
Lodi, New Jersey

Well ID	Sample ID	Company	Date (m/yy)	AE	BN	VOA	Metals	Pest/PCBs	Phenol	Cyanide	TPH
MW-8	536A-MW08-GW01	Environ	8/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	536A-MW08-GW01DL	Environ	8/88	--	--	Yes	--	--	--	--	--
	536A-MW08-GW02	Environ	8/88	--	--	Yes	--	--	--	--	--
	E320322	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-8	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-9	536A-MW09-GW01	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	E320323	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-9	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-10	536A-MW10-GW01	Environ	8/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	536A-MW10-GW01DL	Environ	8/88	--	--	Yes	--	--	--	--	--
	E320324	Killam	7/93	--	--	Yes	--	--	--	--	--
	4576A-MW10-166591	Environ	5/95	--	--	Yes	--	--	--	--	--
	4576A-MW10-166889	Environ	5/95	Yes	--	--	--	--	Yes	--	--
	MW-10	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-11	536A-MW11-GW01	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	E320325	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-11	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-12	536A-MW12-GW01	Environ	8/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	E320326	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-12	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-13	536A-MW13-GW01	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	536A-MW13-GW11	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	E320327	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-13	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-14	536A-MW14-GW01	Environ	8/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	MW-14	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-15	536A-MW15-GW01	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	MW-15	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-16	536A-MW16-GW01	Environ	8/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	536A-MW16-GW02	Environ	8/88	--	--	--	Yes	--	--	--	Yes
	E320328	Killam	7/93	--	--	Yes	--	--	--	--	--
	4576A-MW16-166592	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
	MW-16	H&A	7/98	--	--	Yes	--	Yes	--	--	--

TABLE II
SUMMARY OF GROUNDWATER SAMPLING
Hexcel Facility
Lodi, New Jersey

Well ID	Sample ID	Company	Date (m/yy)	AE	BN	VOA	Metals	Pest/PCBs	Phenol	Cyanide	TPH
MW-17	536A-MW17-GW01	Environ	1/89	--	--	Yes	--	--	--	--	--
	E320260	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-18	536A-MW18-GW01	Environ	8/88	--	--	Yes	Yes	Yes	--	--	--
	536A-MW18-GW01DL	Environ	8/88	--	--	Yes	--	--	--	--	--
	E320261	Killam	7/93	--	--	Yes	--	--	--	--	--
	4576A-MW18-166596	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
MW-19	536A-MW19-GW01	Environ	1/89	--	--	Yes	--	--	--	--	--
	MW-19	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-20	MW-20	Heritage	11/90	Yes	Yes	Yes	--	Yes	Yes	Yes	--
	MW-20A	Heritage	11/90	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--
	MW-20 Dup	Heritage	11/90	--	--	Yes	--	--	--	--	--
	MW-20-S-2242	Heritage	12/90	--	--	Yes	--	--	--	--	--
	E320262	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-20	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-21	MW-21	Heritage	10/90	Yes	Yes	Yes	--	Yes	Yes	--	Yes
	E320263	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-21	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-22	E320264	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-22	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-23	MW-23	Heritage	11/90	--	--	Yes	--	--	--	--	Yes
	ENSRMW-2	ENSR	5/95	--	--	Yes	Yes	Yes	--	--	--
	4576A-MW23-166593	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
	MW-23	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-24	MW-24	Heritage	11/90	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--
	E320329	Killam	7/93	--	--	Yes	--	--	--	--	--
	4576A-MW24-166600	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
	MW-24	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-25	MW-25	Heritage	11/90	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--
	E320330	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-26	MW-26	Heritage	12/90	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--
	MW-26	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-27	MW-27	Heritage	11/90	--	--	Yes	--	--	--	--	--
	MW-27	H&A	7/98	--	--	Yes	--	Yes	--	--	--

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TABLE II
SUMMARY OF GROUNDWATER SAMPLING
Hexcel Facility
Lodi, New Jersey

Well ID	Sample ID	Company	Date (m/yy)	AE	BN	VOA	Metals	Pest/PCBs	Phenol	Cyanide	TPH
MW-28	MW-28	Heritage	11/90	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--
	E320331	Killam	7/93	--	--	Yes	--	--	--	--	--
	MW-28	H&A	7/98	--	--	Yes	--	Yes	--	--	--
MW-29	ENSRMW-3	ENSR	5/95	--	--	Yes	Yes	Yes	--	--	--
MW-30	ENSRMW-1	ENSR	5/95	--	--	Yes	Yes	Yes	--	--	--
MW-31	E320265	Killam	7/93	--	--	Yes	--	--	--	--	--
	ENSRMW-4	ENSR	5/95	--	--	Yes	Yes	Yes	--	--	--
MW-32	MW32	Heritage	4/92	--	--	Yes	--	--	--	--	--
MW-33	MW33	Heritage	4/92	--	--	Yes	--	--	--	--	--
	MW-33	H&A	7/98	--	--	Yes	--	Yes	--	--	--
CW-1	CW-1	Heritage	4/92	--	--	Yes	--	--	--	--	--
	E320266	Killam	7/93	--	--	Yes	--	--	--	--	--
CW-2	CW-2	Heritage	4/92	--	--	Yes	--	--	--	--	--
CW-3	CW-3	Heritage	10/90	Yes	Yes	Yes	--	Yes	Yes	--	Yes
	E320247	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320247R	Killam	7/93	--	--	--	--	Yes	--	--	--
CW-5	E320248	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320248R	Killam	7/93	--	--	--	--	Yes	--	--	--
CW-6	4576A-CW6-166597	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
CW-7	4576A-CW7P-166595	Environ	5/95	--	--	Yes	--	--	--	--	--
	4576A-CW7P-166599	Environ	5/95	--	--	Yes	--	Yes	--	--	--
	4576A-CW7-166602	Environ	5/95	Yes	--	--	--	--	Yes	--	--
CW-9	E320249	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320249R	Killam	7/93	--	--	--	--	Yes	--	--	--
CW-10	CW10	Heritage	4/92	--	--	Yes	--	--	--	--	--
	E320332	Killam	7/93	--	--	Yes	--	--	--	--	--
CW-11	CW-11	Heritage	10/90	Yes	Yes	Yes	--	Yes	Yes	--	Yes
	E320250	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320250R	Killam	7/93	--	--	--	--	Yes	--	--	--
CW-12	4576A-CW12-166604	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
	4576A-CW12D-166605	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
CW-14	E320333	Killam	7/93	--	--	Yes	--	--	--	--	--

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TABLE II
SUMMARY OF GROUNDWATER SAMPLING
Hexcel Facility
Lodi, New Jersey

Well ID	Sample ID	Company	Date (m/yy)	AE	BN	VOA	Metals	Pest/PCBs	Phenol	Cyanide	TPH
CW-15	E320251	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320251R	Killam	7/93	--	--	--	--	Yes	--	--	--
CW-19	E320252	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320252R	Killam	7/93	--	--	--	--	Yes	--	--	--
CW-21	E320253	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320253R	Killam	7/93	--	--	--	--	Yes	--	--	--
RW6-1	RW6-1	Heritage	11/90	--	--	Yes	--	--	--	--	--
RW6-2	RW6-2	Heritage	11/90	--	--	Yes	--	--	--	--	--
	E320334	Killam	7/93	--	--	Yes	--	--	--	--	--
RW6-3	RW6-3	Heritage	11/90	--	--	Yes	--	--	--	--	--
RW7-8	4576A-RW7-8-166603	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--

8821400058

TABLE III

VOLATILE ORGANIC COMPOUNDS EXCEEDANCES IN SOIL SAMPLES
Hexcel Facility
Lodi, New Jersey

Boring ID	Sample Date	Sample ID	Depth (ft.)	Constituent	Concentration (mg/kg)	Impact to Groundwater Soil Cleanup Criteria* (mg/kg)	Comments
102	9/1/88	536A-0102-SB04	6.0-6.5	Chlorobenzene	3.2 (U)	1	Note (a)
				Tetrachloroethene	1.7 (U)	1	Note (a)
				Trans-1,2-Dichloroethene	110.0 (U)	50	Note (a)
104(MW18)	8/1/88	536A-0104-SB03	5.5-6.0	Chlorobenzene	53.0	1	
	8/1/88	536A-0104-SB04	6.0-6.5	Chlorobenzene	67.0	1	
105	9/1/88	536A-0105-SB02	1.5-2.0	Tetrachloroethene	10.0	1	
201	9/1/88	536A-0201-SB03	4.5-5.0	1,1,2,2-Tetrachlororethane	79.0 (120)	1	Note (a)
				1,1,2-Trichloroethane	79.0 (U)	1	Note (a)
				Carbon Tetrachloride	22.0 (44)	1	Note (a)
				Tetrachloroethene	5500.0 (8500)	1	Note (a)
				Trichloroethene	100.0 (280)	1	Note (a)
				1,1,1-Trichloroethane	110.0 (280)	50	Note (a)
				Chlorobenzene	25.0 (32)	1	Note (a)
302	9/1/88	536A-0302-SB02	1.5-2.0	Tetrachloroethene	7.6	1	
	9/1/88	536A-0302-SB22	1.5-2.1	Tetrachloroethene	1.9	1	
	9/1/88	536A-0302-SB03	6.0-6.5	Tetrachloroethene	61.0 (54)	1	Note (a)
				Trichloroethene	U (3.1)	1	Note (a)
303 (MW4)	8/1/88	536A-0303-SB03	5.5-6.0	1,1,2,2-Tetrachloroethane	6.0 (U) J	1	Note (a)
				Chlorobenzene	150.0 (U) J	1	Note (a)
				Carbon Tetrachloride	5.8 (U) J	1	Note (a)
				1,2-Dichloroethane	5.8 (U) J	1	Note (a)
				Methylene Chloride	64.0 (190) J	1	Note (a)
				Tetrachloroethene	5500.0 (3000)	1	Note (a)
				Trichloroethene	470.0 (2800) J	1	Note (a)
401	9/1/88	536A-0401-SB03	5.0-5.5	Tetrachloroethene	13.0	1	
501	9/1/88	536A-0501-SB03	4.5-5.0	1,1,2,2-Tetrachloroethane	49.0 (U)	1	Note (a)
				Chlorobenzene	5.1 (U)	1	Note (a)
				Tetrachloroethene	4000.0 (2400)	1	Note (a)
				Trichloroethene	18.0 (U)	1	Note (a)

TABLE III

VOLATILE ORGANIC COMPOUNDS EXCEEDANCES IN SOIL SAMPLES

Hexcel Facility

Lodi, New Jersey

Boring ID	Sample Date	Sample ID	Depth (ft.)	Constituent	Concentration (mg/kg)	Impact to Groundwater Soil Cleanup Criteria* (mg/kg)	Comments
601(MW7)	7/1/88	536A-0601-SB02	1.5-2.0	Chlorobenzene	2.6	1	
				Methylene Chloride	4.6	1	
	7/1/88	536A-0601-SB03	5.5-6.0	Chlorobenzene	9.8 (9.3)	1	Note (a)
				Methylene Chloride	2.0 (5.1)	1	Note (a)
				Tetrachloroethene	2.6 (2.7)	1	Note (a)
613	4/20/92	613-004	5.0-6.0	Chlorobenzene	42.2	1	
702	9/1/88	536A-0702-SB03	6.0-6.5	Chlorobenzene	1.4	1	
703	9/1/88	536A-0703-SB02	1.5-2.0	Chlorobenzene	1.1	1	
801	9/1/88	536A-0801-SB02	1.5-2.0	Chlorobenzene	5.0	1	
				Tetrachloroethene	2.6	1	
901	9/1/88	536A-0901-SB02	1.5-2.0	Chlorobenzene	1.3	1	
1502	6/24/87	536A-1502-SB01	6.0-7.0	1,2-Dichloroethene (total)	244.0 X	1, 50	Note (b)
				Tetrachloroethene	471.0 X	1	
				Trichloroethene	154.0 X	1	
	6/24/87	536A-1502-SB02	11.0-11.5	Tetrachloroethene	34.9 X	1	
				Trichloroethene	16.1 X	1	
1503	6/24/87	536A-1503-SB01	8.5-9.0	1,2-Dichloroethene (total)	566.0 X	1, 50	Note (b)
				Chlorobenzene	2.0	1	
				Methylene Chloride	42.3 X	1	
				Tetrachloroethene	75.4 X	1	
				Trichloroethene	15.1 X	1	
A1	8/1/85	A1-44182	0.5-2.5	Chloroform	280.0	1	Note (c)
				Tetrachloroethene	1900.0	1	
A2	8/1/85	A2-44181	0.5-2.5	Chloroform	310.0	1	Note (c)
				Tetrachloroethene	17.0	1	
A3	8/1/85	A3-44180	0.5-2.5	Chloroform	280.0	1	Note (c)
A5	8/1/85	A5-44122	2.0-2.5	Chloroform	270.0	1	Note (c)
A6	8/1/85	A6-44123	2.0-3.5	Chloroform	240.0	1	Note (c)
A8	8/1/85	A8-44184	2.0-3.5	Tetrachloroethene	610.0	1	
A9	8/1/85	A9-44185	1.0-2.5	Tetrachloroethene	582.0	1	

TABLE III
VOLATILE ORGANIC COMPOUNDS EXCEEDANCES IN SOIL SAMPLES
Hexcel Facility
Lodi, New Jersey

Boring ID	Sample Date	Sample ID	Depth (ft.)	Constituent	Concentration (mg/kg)	Impact to Groundwater Soil Cleanup Criteria* (mg/kg)	Comments
A10	8/1/85	A10-44118	1.5-2.0	Chloroform	270.0	1	Note (c)
				Tetrachloroethene	68.0	1	
				Trichloroethene	23.0	1	
	8/1/85	A10-44119	3.5-4.0	Chloroform	330.0	1	Note (c)
				Methylene Chloride	18.0	1	
				Tetrachloroethene	26.0	1	
A11	8/1/85	A11-44120	1.5-2.0	Chloroform	200.0	1	Note (c)
				Tetrachloroethene	104.0	1	
				Trichloroethene	25.0	1	
	8/1/85	A11-44121	3.5-4.0	Chloroform	320.0	1	Note (c)
				Tetrachloroethene	390.0	1	
				Trichloroethene	129.0	1	
A12	8/1/85	A12-44109	2.0-4.0	Tetrachloroethene	72.9	1	
A13	8/1/85	A13-44110	2.0-4.0	Tetrachloroethene	17.2	1	
				Trichloroethene	3.0	1	
A14	8/1/85	A14-44111	2.0-4.0	Chloroform	280.0	1	Note (c)
				Methylene Chloride	25.0	1	
				Tetrachloroethene	31.0	1	
A15	8/1/85	A15-44401	6.0-8.0	Chloroform	350.0	1	Note (c)
B1	8/1/85	B1-44116	1.5-2.0	1,1,2,2-Tetrachloroethane	380.0	1	
				Chloroform	320.0	1	Note (c)
				Methylene Chloride	180.0	1	
				Tetrachloroethene	430.0	1	
				Trichloroethene	54.0	1	
B2	8/1/85	B2-44183	2.5-5.0	Chloroform	280.0	1	Note (c)
				Tetrachloroethene	1700.0	1	
B3	8/1/85	B3-44117	1.5-2.0	Chloroform	277.0	1	Note (c)
				Methylene Chloride	8.0	1	
				Tetrachloroethene	878.0	1	
C3	8/1/85	C3-44188	1.0-2.0	Chlorobenzene	80.0	1	
				Methylene Chloride	270.0	1	

TABLE III

VOLATILE ORGANIC COMPOUNDS EXCEEDANCES IN SOIL SAMPLES
Hexcel Facility
Lodi, New Jersey

Boring ID	Sample Date	Sample ID	Depth (ft.)	Constituent	Concentration (mg/kg)	Impact to Groundwater Soil Cleanup Criteria* (mg/kg)	Comments
C-6	6/1/85	C-6-40332	1.5-2.0	Tetrachloroethene	50.0	1	
				Trichloroethene	19.0	1	
C-8	6/1/85	C-8-40324	3.5-4.0	Tetrachloroethene	33.1	1	
				Trichloroethene	15.5	1	
F1	8/1/85	F1-44403	1.0-1.0	Chloroform	320.0	1	Note (c)
F2	8/1/85	F2-44404	1.0-1.0	Chloroform	230.0	1	Note (c)
				Methylene Chloride	20.0	1	
F3	8/1/85	F3-44405	1.0-1.0	Chloroform	255.0	1	Note (c)
G1	8/1/85	G1-44112	0-2.0	Chloroform	300.0	1	Note (c)
G2	8/1/85	G2-44113	2.0-3.0	Chloroform	260.0	1	Note (c)
G3	8/1/85	G3-44114	2.0-3.0	Chloroform	218.0	1	Note (c)
				Methylene Chloride	13.0	1	
G4	8/1/85	G4-44115	0-2.0	Chloroform	233.0	1	Note (c)
HS-1	11/1/90	HS-1 #007	13.0-15.0	Chlorobenzene	1.3	1	
HS-2	11/1/90	HS-2 #004	5.0-7.0	Methylene Chloride	4.7	1	
HS-3	11/1/90	HS-3 #004	7.0-9.0	Methylene Chloride	3.6	1	
HS-6	11/1/90	HS-6 #006	13.0-15.0	1,2-Dichloroethane	1.0	1	
				Chlorobenzene	7.2	1	
				Methylene Chloride	1.9	1	
HS-8	11/1/90	HS-8 #003	6.0-8.0	Methylene Chloride	7.5	1	
HS-9	11/1/90	HS-9 #004B	8.5-9.0	Methylene Chloride	12.7	1	
HS-10	11/1/90	HS-10 #003	5.0-7.0	Methylene Chloride	7.5	1	
BR-UST-B	6/1/91	BR TANK BOTTOM	10.0-10.0	1,1,2,2-Tetrachloroethane	2.5	1	
				Chlorobenzene	6.4	1	
				Methylene Chloride	5.0	1	
BR-UST-W	6/1/91	BR TANK WEST	5.0-5.0	1,1,2,2-Tetrachloroethane	19.4	1	
				Methylene Chloride	4.5	1	
				Tetrachloroethene	8.3	1	

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TABLE III

VOLATILE ORGANIC COMPOUNDS EXCEEDANCES IN SOIL SAMPLES
Hexcel Facility
Lodi, New Jersey

Boring ID	Sample Date	Sample ID	Depth (ft.)	Constituent	Concentration (mg/kg)	Impact to Groundwater Soil Cleanup Criteria* (mg/kg)	Comments
BR-UST-E	6/1/91	BR TANK EAST	5.0-5.0	1,1,2,2-Tetrachloroethane	6.0	1	
				1,1,2-Trichloroethane	1.6	1	
				Methylene Chloride	5.1	1	
				Tetrachloroethene	156.3	1	
				Trichloroethene	30.8	1	
BR-UST-N	6/1/91	BR TANK NORTH	5.0-5.0	1,1,2,2-Tetrachloroethane	3.4	1	
				Methylene Chloride	3.9	1	
				Tetrachloroethene	1.3	1	
BR-UST-S	6/1/91	BR TANK SOUTH	5.0-5.0	Methylene Chloride	1.4	1	
				Tetrachloroethene	3.2	1	
GAS-UST-B	6/1/91	REAR TANK BOTTOM	6.0-6.0	1,1,2,2-Tetrachloroethane	1.3	1	
				Chlorobenzene	60.0	1	
				Methylene Chloride	7.8	1	
				Tetrachloroethene	57.4	1	
				Toluene	1343.1	500	
				Trichloroethene	11.2	1	
				Xylene (total)	100.7	67	
GAS-UST-E	6/1/91	REAR TANK EAST	3.0-4.0	Methylene Chloride	3.9	1	
GAS-UST-N	6/1/91	REAR TANK NORTH	5.0-5.0	Methylene Chloride	3.9	1	
GAS-UST-S	6/1/91	REAR TANK SOUTH	5.0-5.0	1,1,2,2-Tetrachloroethane	1.3	1	
				Methylene Chloride	3.5	1	
GAS-UST-W	6/1/91	REAR TANK WEST	3.0-4.0	Methylene Chloride	4.0	1	

Notes:

*: Soil Cleanup Criteria (last revised- 5/3/99). The IGWSCC is the most stringent criteria for the Volatile Organic parameters.
(a): The sample was diluted and reanalyzed due to high concentration of a compound. The results in parentheses are from the diluted sample.
(b): Cleanup Criterion not available for 1,2-dichloroethene (total); 1 mg/kg is the criterion for cis-1,2-dichloroethene and 50 mg/kg is the criterion for trans-1,2-dichloroethene.
(c): Presence of chloroform was attributed to laboratory contamination or error.
J Indicates reported value is below the method detection limit.
X Indicates the sample was analyzed at a higher dilution.
U Not Detected

DATA QUALIFYING NOTES FOR TABLES IV and V

GWQS	= Ground Water Quality Standards; N.J.A.C. 7:9-6.
170	Bold and shaded cell indicates that the concentration exceeds the GWQS for that compound.
(170)	The value in parentheses indicate concentration from a diluted or a duplicate sample.
*	= The given concentration is a total of 1,2 and 1,4-Dichlorobenzenes.
^	= The given concentration is a total of cis- and trans-1,2-Dichloroethenes.
--	= Not Detected at the Method Detection Limit.
NT	= Not Tested
J	= Estimated Concentration
B	= Compound was also detected in the Method Blank.
**	= GWQS not available for this compound; the criteria listed is the interim generic criteria for synthetic organic chemicals lacking evidence of carcinogenicity.
***	= Includes the total of concentrations for all the detected targeted compounds.
~	= New Maximum Concentration Limits (MCLs) in accordance with the revision to Safe Drinking Water Act (New Jersey Register: November 18, 1996). NJDEP memorandum dated February 5, 1997 defines these MCLs as the interim specific criteria replacing the promulgated GWQS for these compounds.

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TABLE IV
VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (SHALLOW WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	GWQS	MW-2							MW-4						MW-6					
	(ug/L)	1988		1993	1995		1998		1988		1993	1998			1988		1993	1998		
1,1,1-Trichloroethane	30	--		--	--		--		3900		1600	3700			3200		130	190		
1,1,2,2-Tetrachloroethane	1~	5	J	--	--		--		790	J	--	--			--		--	--		
1,1,2-Trichloroethane	3	50		--	--		--		--		--	--			--		--	--		
1,1-Dichloroethane	50~	--		--	--		--		--		330	--			--		15	--		
1,1-Dichloroethene	2	--		--	--		--		--		55	--			--		--	--		
1,2-Dichloroethane	2	--		--	--		--		2900		590	--			110000		1900	1000		
1,2-Dichloropropane	1	--		--	--		--		--		--	--			--		--	--		
1,2-Dichlorobenzene	600	--		1.8	NT		--		--		1000	--			660		59	--		
1,3-Dichlorobenzene	600	--		--	NT		--		--		32	--			--		--	--		
1,4-Dichlorobenzene	75	--		1.6	NT		--		--		110	--			48	J	--	--		
2-Chloroethyl Vinyl Ether	100**	--		--	--		--		--		--	--			--		1700	--		
Benzene	1	--		--	--		--		--		19	--			--		--	1100		
Bromodichloromethane	1	--		--	--		--		--		--	--			--		--	--		
Carbon Tetrachloride	2	--		--	--		--		--		--	--			--		--	--		
Chlorobenzene	50~	1.4	J	4.3	--		--		9000		560	--			--		6900	7800		
Chloroethane	100**	--		--	--		--		--		--	--			27000		19	--		
Chloroform	6	7		--	--		--		--		--	--			1200		24	18		
Ethylbenzene	700	--		--	--		--		--		24	--			--		30	28		
Methylene Chloride	3~	83	B,D	--	--		--		200000	B,D	11000	4300			74000	B	900	360		
Tetrachloroethene	1	280		9	11		12		53000		1700	--			13000		600	710		
Toluene	1000	--		--	--		--		3700		180	--			4700		250	160		
cis- 1,2-Dichloroethene	70~	--		28	9.6		3.3		--		160	190000			--		73	57		
trans- 1,2-Dichloroethene	100	530		--	--		--		12000		40	--			--		--	--		
Trichloroethene	1	72		1.9	4	J	3.1		18000		1800	--			6500		280	460		
Vinyl Chloride	5	34		--	--		--		--		--	--			--		30	--		
Xylene (Total)	1000~	NT		--	--		--		NT		240	--			NT		45	--		
MTBE	70~	NT		NT	NT		--		NT		NT	--			NT		NT	--		
Total Targeted Volatile Organics (ug/L)***		1062.4		46.6	24.6		18.4		302790		19440	198000			240308		12955	11883		

Refer to data qualifying notes provided for TABLES IV and V

TABLE IV
VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (SHALLOW WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	GWQS	MW-8			MW-10				MW-12			MW-14	
	(ug/L)	1988	1993	1998	1988	1993	1995	1998	1988	1993	1998	1988	1998
1,1,1-Trichloroethane	30	570 J	390	--	--	--	--	--	7.5	38	16	--	--
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	50~	640 J	160	--	--	--	--	--	1.6 J	5	3.6	--	1.2
1,1-Dichloroethene	2	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	2	5400	--	--	--	76	--	--	--	--	--	--	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	220	5500	1500	22	--	NT	--	--	--	--	--	--
1,3-Dichlorobenzene	600	--	--	--	--	--	NT	--	--	--	--	--	--
1,4-Dichlorobenzene	75	250	390	--	19	--	NT	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	100**	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	1300	3600	2600	980	590	660	1500	--	--	--	--	--
Bromodichloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--	--	--	2 J	--	--	--	--
Chlorobenzene	50~	80000	69000	23000	8300	7000	5500	4700	1 J	--	--	--	4.5
Chloroethane	100**	--	--	--	--	--	--	120	--	--	--	--	--
Chloroform	6	200 J	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	700	--	340	280	22 J	--	--	--	--	--	--	--	--
Methylene Chloride	3~	14000 B,D	--	--	410 B,D	--	--	--	20 B	--	--	10 B	--
Tetrachloroethene	1	3600	8200	2000	--	--	--	--	--	--	--	--	--
Toluene	1000	11000	5400	680	--	--	--	--	--	--	--	--	--
cis- 1,2-Dichloroethene	70~	--	1300	1100	--	--	--	--	--	--	--	--	4.4
trans- 1,2-Dichloroethene	100	13000	--	--	18 J	--	--	--	--	--	--	--	0.3
Trichloroethene	1	850 J	1300	160	16 J	--	--	--	--	--	--	--	--
Vinyl Chloride	5	--	490	--	--	--	--	--	--	--	--	--	16
Xylene (Total)	1000~	NT	310	--	NT	--	--	--	NT	--	--	NT	--
MTBE	70~	NT	NT	--	NT	NT	NT	--	NT	NT	--	NT	1.8
Total Targeted Volatile Organics (ug/L)***		131030	96380	31320	9787	7666	6160	6320	32.1	43	19.6	10	28.2

Refer to data qualifying notes provided for TABLES IV and V

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ALDRICH

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November 1999

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TABLE IV
VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (SHALLOW WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	GWQS (ug/L)	MW-16 1988	MW-16 1993	MW-16 1995	MW-16 1998	MW-17 1989	MW-17 1993	MW-17 1998	MW-18 1988	MW-18 1993	MW-18 1995	MW-20 1990	MW-20 1993	MW-20 1998
1,1,1-Trichloroethane	30	--	--	--	--	--	1700	3600	--	--	--	5 J	--	--
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	50~	6.7	6	4.3	2.4	1200	250	1000	150	71	--	--	--	--
1,1-Dichloroethene	2	--	--	--	--	690	120	--	--	--	--	--	--	--
1,2-Dichloroethane	2	--	--	--	--	2100	450	--	280	820	--	--	--	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	2.2 J	2.5	NT	--	21000 *	1200	--	--	880	NT	3 J	--	--
1,3-Dichlorobenzene	600	--	--	NT	--	310	100	--	--	27	NT	--	--	--
1,4-Dichlorobenzene	75	--	--	NT	--		170	--	--	940	NT	--	--	--
2-Chloroethyl Vinyl Ether	100**	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	4.7 J	3.7	3.4	2	--	15	--	350	280	--	--	--	--
Bromodichloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	50~	110	63	57	54	2300	240	--	2600	7100	4300	--	--	--
Chloroethane	100**	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	6	4 J	--	--	--	--	--	--	--	--	--	4 J	--	0.3
Ethylbenzene	700	3 J	3.6	2.6	1.7	420	15	--	53	110	--	--	--	--
Methylene Chloride	3~	12 B	--	--	--	610000	5800	4300	18000 B,D	--	--	16.9	--	--
Tetrachloroethene	1	4 J	--	--	--	26000	2600	3100	5.1	--	--	119	--	0.6
Toluene	1000	180	10	7.9	2.5	7800	360	--	240	160	--	--	1.2	--
cis- 1,2-Dichloroethene	70~	--	32	19	18	96000 ^	35000	230000	--	42000	210000	NT	--	0.5 J
trans- 1,2-Dichloroethene	100	120	1.3	1.4	0.9		61	--	710	80	--	5.2	--	--
Trichloroethene	1	5.6	--	--	--	37000	3800	2200	--	23	--	16.7	--	1.2
Vinyl Chloride	5	57	45	10	5.6	--	--	--	16000	28000	6000	--	--	--
Xylene (Total)	1000~	NT	3	3.1	0.7 J	NT	140	--	NT	290	--	--	--	--
MTBE	70~	NT	NT	NT	--	NT	NT	--	NT	NT	NT	NT	NT	1
Total Targeted Volatile Organics (ug/L)***		509.2	170.1	108.7	87.8	844920	52021	244200	38388.1	80781	220300	169.8	1.2	3.6

Refer to data qualifying notes provided for TABLES IV and V

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TABLE IV
VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (SHALLOW WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	GWQS (ug/L)	MW-21 1990	MW-21 1993	MW-21 1998	MW-22 1993	MW-22 1998	MW-23 1990	MW-23 1995	MW-23 1998	MW-24 1990	MW-24 1993	MW-24 1995	MW-24 1998
1,1,1-Trichloroethane	30	--	--	--	2000	20	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	50~	27	21	50	860	6.8	--	--	0.6	--	--	--	--
1,1-Dichloroethene	2	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	2	--	--	--	670	--	--	--	--	--	0.78	--	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	117	40	--	2100	--	95 J	NT	10	--	--	NT	--
1,3-Dichlorobenzene	600	31	56	--	--	--	397 J	NT	--	--	--	NT	--
1,4-Dichlorobenzene	75	102	200	150	190	--	--	NT	--	--	--	NT	--
2-Chloroethyl Vinyl Ether	100**	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	14	24	31	--	--	--	35	0.9	--	--	--	--
Bromodichloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	50~	827	2400	3700	760	4.2	55 J	81	14	--	1.4	1.8 J	1
Chloroethane	100**	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	6	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	700	--	--	--	240	--	--	--	1.7	--	--	--	--
Methylene Chloride	3~	98	--	--	270000	--	--	--	--	4 J	--	3.2 J	--
Tetrachloroethene	1	3	--	--	1200	3.4	--	--	--	--	--	--	--
Toluene	1000	9	14	--	3100	--	--	96	7.8	--	--	--	--
cis- 1,2-Dichloroethene	70~	NT	1900	8300	120000	11000	--	19000	8.8	NT	--	--	--
trans- 1,2-Dichloroethene	100	--	--	47	--	--	2285	--	0.4	--	--	--	--
Trichloroethene	1	4	--	--	3400	--	--	--	--	--	--	--	--
Vinyl Chloride	5	--	670	1100	--	--	1729	5200	5.8	--	--	--	--
Xylene (Total)	1000~	14	30	--	700	--	121 J	100	16	--	--	--	--
MTBE	70~	NT	NT	--	NT	--	NT	NT	--	NT	NT	NT	--
Total Targeted Volatile Organics (ug/L)***		1246	5355	13378	405220	1034.4	4682	24512	66	4	2.18	5	1

Refer to data qualifying notes provided for TABLES IV and V

TABLE IV

VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (SHALLOW WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	GWQS (ug/L)	MW-25 1990	MW-25 1993	MW-26 1990	MW-26 1998	MW-27 1990	MW-27 1998	MW-28 1990	MW-28 1993	MW-28 1998	MW-29 1995
1,1,1-Trichloroethane	30	--	--	3169	21000	2474 J	1400	7 J	--	--	23
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	3824 J	--	--	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	50~	--	--	--	3500	--	950	44 J	--	--	48
1,1-Dichloroethene	2	--	--	113 J	--	--	--	--	--	--	--
1,2-Dichloroethane	2	--	--	11990	130000	--	--	--	--	--	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	9 J	--	3098	--	7613 J	--	10 J	--	--	--
1,3-Dichlorobenzene	600	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	75	11.6	--	--	--	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	100**	--	--	--	--	--	--	--	--	--	--
Benzene	1	933	600	1741	--	--	--	24 J	140	140	--
Bromodichloromethane	1	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	2	--	--	344	--	--	--	--	--	--	--
Chlorobenzene	50~	2159	2000	15700	230000	14980	4700	418	1700	1300	--
Chloroethane	100**	--	--	--	--	--	--	--	--	--	--
Chloroform	6	--	--	1110	18000	--	--	--	--	--	--
Ethylbenzene	700	8 J	--	--	--	--	--	--	--	--	--
Methylene Chloride	3~	8 J	--	106900	150000	126000	22000	8 J	--	--	--
Tetrachloroethene	1	6 J	--	3020	54000	219400	460	--	--	--	36
Toluene	1000	--	--	--	8000	--	3500	--	--	--	--
cis- 1,2-Dichloroethene	70~	NT	--	NT	5300	NT	460000	NT	--	--	2300
trans- 1,2-Dichloroethene	100	19 J	--	122 J	--	78850	--	17 J	--	--	--
Trichloroethene	1	--	--	999	2200	135800	--	--	--	--	--
Vinyl Chloride	5	--	--	--	1300	--	--	--	--	6	1100
Xylene (Total)	1000~	--	--	--	--	5201 J	--	--	--	--	--
MTBE	70~	NT	NT	NT	--	NT	--	NT	NT	--	
Total Targeted Volatile Organics (ug/L)***		3153.6	2600	148306	623300	594142	493010	528	1840	1446	3507

Refer to data qualifying notes provided for TABLES IV and V

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TABLE IV
VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (SHALLOW WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	GWQS (ug/L)	MW-30 1995	MW-31 1993	MW-31 1995	MW-32 1992	MW-33 1992	MW-33 1998	CW-1 1992	CW-1 1993	CW-2 1990	CW-3 1990	CW-3 1993
1,1,1-Trichloroethane	30	--	--	--	--	--	6.3	25.6	23	--	1280	1200
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	50~	--	42	--	--	--	2.4	70	396	--	525	460
1,1-Dichloroethene	2	--	7.1	--	--	--	1.2	--	0.87	--	454	--
1,2-Dichloroethane	2	--	--	--	--	--	--	--	0.99	129.4	--	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	--	59	NT	94 J	--	--	8.5	65	40 J	6581	5300
1,3-Dichlorobenzene	600	--	9.6	NT	94 J	--	--	8.5	4.6	40 J	157	110
1,4-Dichlorobenzene	75	--	32	NT	273 J	--	--	--	8.1	380	3333	380
2-Chloroethyl Vinyl Ether	100**	--	--	--	--	--	--	5.4	--	--	--	--
Benzene	1	140	32	30	--	--	--	--	--	--	23	--
Bromodichloromethane	1	--	--	--	--	--	--	--	--	--	88	--
Carbon Tetrachloride	2	--	--	--	--	--	--	--	--	--	198	--
Chlorobenzene	50~	140	100	48	188 J	--	5.8	--	17	46 J	2310	2200
Chloroethane	100**	--	--	--	--	--	--	--	--	--	--	--
Chloroform	6	--	--	49	--	14.5	22	--	--	--	24	--
Ethylbenzene	700	--	1.3	7.2	--	--	--	--	5.5	--	324	--
Methylene Chloride	3~	--	--	--	10040 B	3 J	--	--	--	21 JB	14200	5600
Tetrachloroethene	1	--	--	13	--	--	--	46.1	79	--	5650	2900
Toluene	1000	--	13	22	175 J	--	--	--	3.2	24 J	1575	510
cis- 1,2-Dichloroethene	70~	12000	1.3	1800	--	--	80	--	800	--	NT	80000
trans- 1,2-Dichloroethene	100	--	60	--	292	--	1.2	--	6.1	--	107	--
Trichloroethene	1	--	--	--	201 J	--	1.2	33.5	29	40 J	4395	1200
Vinyl Chloride	5	2300	34000	1200	--	--	1.6	--	13	--	--	--
Xylene (Total)	1000~	--	81	37	--	--	--	--	36	--	815	690
MTBE	70~					NT	4.8					
Total Targeted Volatile Organics (ug/L)***		14580	34438.3	3206.2	11357	17.5	126.5	197.6	1487.4	720.4	42039	100550

Refer to data qualifying notes provided for TABLES IV and V

TABLE IV
VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (SHALLOW WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	GWQS (ug/L)	CW-5 1993	CW-6 1995	CW-7 1995	CW-9 1993	CW-10 1992	CW-10 1993	CW-11 1990	CW-11 1993	CW-12 1995	CW-14 1995
1,1,1-Trichloroethane	30	9500	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	--	--	56.4	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	50~	1200	--	--	--	--	1.6	575	230	--	--
1,1-Dichloroethene	2	--	--	--	--	--	--	18	--	--	--
1,2-Dichloroethane	2	1500	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	5600	--	--	57	--	16	725	570	--	470
1,3-Dichlorobenzene	600	--	--	--	--	--	1.5	25	--	--	100
1,4-Dichlorobenzene	75	740	--	--	--	--	5.8	113	120	--	200
2-Chloroethyl Vinyl Ether	100**	--	--	--	--	--	--	--	--	--	--
Benzene	1	--	--	--	1600	--	78	2390	960	1800 J	2400
Bromodichloromethane	1	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	50~	3900	--	370	5200	880.5 0	1800	2965	52000	140000	17000
Chloroethane	100**	--	--	--	--	--	--	175	--	--	21
Chloroform	6	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	700	--	--	91	--	--	3.7	449	610	--	62
Methylene Chloride	3~	500000	620000	--	--	--	13	2315	--	--	--
Tetrachloroethene	1	39000	4400 J	--	--	59 J	2.1	910	--	12000	--
Toluene	1000	7100	5700	160	--	--	11	--	6500	5700	160
cis- 1,2-Dichloroethene	70~	160000	56000	--	1200	--	29	NT	6900	8100	--
trans- 1,2-Dichloroethene	100	--	--	--	--	--	--	--	--	--	--
Trichloroethene	1	81000	16000	--	--	--	7.6	240	--	5200	--
Vinyl Chloride	5	--	--	--	--	--	--	6700	5500	--	--
Xylene (Total)	1000~	2500	--	160	--	--	4.2	122	200	--	43
Total Targeted Volatile Organics (ug/L)***		812040	702100	781	8057	939.5	1973.5	17778.4	73590	172800	20456

Refer to data qualifying notes provided for TABLES IV and V

TABLE IV
VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (SHALLOW WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	GWQS (ug/L)	CW-15	CW-19	CW-21	RW6-1	RW6-2		RW6-3	RW7-8
		1995	1995	1995	1990	1990	1993	1990	1995
1,1,1-Trichloroethane	30	290	--	--	773	1741	--	--	--
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	132 J	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--
1,1-Dichloroethane	50~	330	10	--	400	2686	1100	--	--
1,1-Dichloroethene	2	--	--	--	117 J	--	--	--	--
1,2-Dichloroethane	2	--	--	--	77340	188800	180000	--	--
1,2-Dichloropropane	1	--	--	--	2752	806	--	--	--
1,2-Dichlorobenzene	600	4600	190	140	27980	2157	2500	28220	--
1,3-Dichlorobenzene	600	--	35	--	1899	--	--	590	--
1,4-Dichlorobenzene	75	310	170	180	1873	--	--	--	--
2-Chloroethyl Vinyl Ether	100**	--	--	--	--	--	14000	--	--
Benzene	1	340	1400	1200	469	938	--	392 J	800
Bromodichloromethane	1	--	--	--	--	--	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--	--	--	--
Chlorobenzene	50~	76000	16000	11000	27980	123300	110000	118300	8500
Chloroethane	100**	--	--	--	--	--	--	--	--
Chloroform	6	--	--	--	2543	8452	2500	--	--
Ethylbenzene	700	1400	10	--	873	1219	110	--	--
Methylene Chloride	3~	--	--	--	17400	160700	250000	31160	1800
Tetrachloroethene	1	11000	--	--	2728	11480	5400	52080	--
Toluene	1000	8100	210	370	1899	2859	1900	--	180 J
cis- 1,2-Dichloroethene	70~	22000	260	6400	--	NT	--	--	290
trans- 1,2-Dichloroethene	100	--	--	--	138 J	941	--	13640	--
Trichloroethene	1	3100	--	--	202	7302	10000	5641	--
Vinyl Chloride	5	--	--	--	226 J	--	--	--	150 J
Xylene (Total)	1000~	--	14	--	--	--	--	--	--
Total Targeted Volatile Organics (ug/L)***		127470	18299	19290	166597	513513	577510	250023	11720

Refer to data qualifying notes provided for TABLES IV and V

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TABLE V
VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (DEEP WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	GWQS (ug/L)	MW-1 1988	MW-1 1993	MW-1 1995	MW-1 1998	MW-3 1988	MW-3 1993	MW-3 1998	MW-5 1988	MW-5 1993	MW-5 1998	MW-7 1988	MW-7 1993	MW-7 1998
1,1,1-Trichloroethane	30	--	--	--	--	3 J	1.3	4.5	2 J	--	--	3 J	1.6	--
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	50~	31	--	--	--	--	--	2.7	48	5.5	14	--	--	--
1,1-Dichloroethene	2	--	--	--	--	--	--	--	--	--	1.3	--	--	--
1,2-Dichloroethane	2	34	--	--	--	--	1.7	--	3 J	--	3.9	15	22	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	--	58	NT	--	--	180	900	--	7.1	64	6 J	9.4	--
1,3-Dichlorobenzene	600	--	--	NT	--	--	6.4	18	--	1	--	56	--	--
1,4-Dichlorobenzene	75	--	7.4	NT	--	--	15	69	--	2.5	18	--	--	--
2-Chloroethyl Vinyl Ether	100	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	--	--	--	--	7 J	--	5.3	10	1.8	3.3	--	--	--
Bromodichloromethane	1	--	--	--	--	--	--	--	--	--	--	5.9	--	--
Carbon Tetrachloride	2	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	50~	120	19	8.6 J	--	320	72	280	61	20	91	--	53	3.8
Chloroethane	100	--	--	--	--	--	--	--	7.2 J	--	--	--	--	--
Chloroform	6	13 J	--	--	--	8.9 J	--	--	--	--	--	70	--	2.8
Ethylbenzene	700	18 J	--	--	--	--	--	1.6	5.8	--	0.4	--	--	--
Methylene Chloride	3~	890 D	--	--	--	73 B	--		50 B	8.3	--	19 B	5.6	--
Tetrachloroethene	1	63	--	--	--	--	25	17	2.8 J	--	2.1	7.3	19	3.8
Toluene	1000	140	34	12	--	4.4 J	--	--	29	--	5	2 J	2.9	--
cis- 1,2-Dichloroethene	70~	--	1300	700	1700	--	380	480	--	81	170	--	7	9.1
trans- 1,2-Dichloroethene	100	5500	--	--	--	430	3.3	9.1	180	--	3.9	5.5	--	--
Trichloroethene	1	16 J	--	8.5 J	--	--	11	5.8	4.3 J	--	9.4	11	7.7	10
Vinyl Chloride	5	480	--	74	49	58	23	100	200	69	65	--	--	--
Xylene (Total)	1000~	NT	36	--	--	NT	--	--	NT	--	1.3	NT	--	--
MTBE	70~	NT	NT	NT	--	NT	NT	--	NT	NT	4	NT	NT	--
Total Targeted Volatile Organics (ug/L)		7305	1454.4	803.1	1749	904.3	718.7	1893	603.1	196.2	456.6	200.7	128.2	29.5

Refer to data qualifying notes provided for TABLES IV and V

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TABLE V
VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (DEEP WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	GWQS (ug/L)	MW-9 1988	MW-9 1993	MW-9 1998	MW-11 1988	MW-11 1993	MW-11 1998	MW-13 1988	MW-13 1993	MW-13 1998	MW-15 1988	MW-15 1998	MW-19 1989	MW-19 1998
1,1,1-Trichloroethane	30	--	--	--	2 J	--	--	5 J	--	--	6.8	--	--	--
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	35 J	--	--	--	--	--	--
1,1-Dichloroethane	50~	--	--	--	2 J	--	--	2 J	--	--	--	--	--	--
1,1-Dichloroethene	2	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	2	2 J	2	--	--	1.8	--	--	--	--	--	--	--	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	6 J	6.6	--	--	2.8	--	12 J	--	--	--	--	--	--
1,3-Dichlorobenzene	600	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	75	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	100	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	--	--	--	2 J	--	--	--	--	--	--	--	--	--
Bromodichloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--	6.7	--	--	--	--	5.1	--	0.7
Chlorobenzene	50~	--	25	14	29	12	7.5	--	--	--	4.3 J	0.6	--	0.3
Chloroethane	100	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	6	3 J	--	0.7	--	--	1.3	1.1 J	1.1	5.3	--	3	--	0.9
Ethylbenzene	700	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	3~	12 B	--	--	12 B	--	--	19	--	--	3.7 J,B	--	--	--
Tetrachloroethene	1	9	9.1	4.4	--	3.1	0.5	4 J	2.6	3.9	--	1.2	4 J	3.3
Toluene	1000	--	1.5	--	--	--	--	--	--	--	--	--	--	--
cis- 1,2-Dichloroethene	70~	--	15	7.7	--	9	5.2	--	15	8.3	--	2.2	11 ^	4.8
trans- 1,2-Dichloroethene	100	5.1	--	--	13	--	--	15	--	--	1.4 J	--	--	0.4
Trichloroethene	1	12	11	19	6.1	2.1	7.4	50	5.7	5.9	8.5	15	43	32
Vinyl Chloride	5	--	--	--	--	--	--	--	1.5	--	--	--	--	--
Xylene (Total)	1000~	NT	--	--	NT	--	--	NT	--	--	--	--	NT	--
MTBE	70~	NT	NT	--	NT	NT	--	NT	NT	--	NT	--	NT	0.8 J
Total Targeted Volatile Organics (ug/L)		49.1	70.2	45.8	66.1	30.8	28.6	143.1	25.9	23.4	24.7	27.1	58	43.2

Refer to data qualifying notes provided for TABLES IV and V

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DATA QUALIFYING NOTES FOR TABLE VI

--: The compound was not detected.

(0.49): The value in parentheses Indicates concentration detected for a duplicate sample.

P: For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%

*: For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

1200 Bold and shaded cell indicates concentration exceeds 100 ppm, the concentration allowable to be left on site in accordance with current PCB remediation policy (40 CFR 761.61)

TABLE VI
POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL SAMPLES
Hexcel Facility
Lodi, New Jersey

All results are in parts per million (ppm)

Sample ID	HA-1		HA-2			HA-3			HA-4		HA-5		
Sample Depth (feet)	0.1-0.6	4.0-4.5	1.0-1.5	2.0-2.5	5.5-6.0	1.5-2.0	6.5-7.0	9.0-9.5	2.0-2.5	6.0-6.5	1.0-1.5	5.0-5.5	7.0-7.5
Lab Sample Number	75089	75088	75091	75093	75092	75083	75099	75100	75086	75087	75098	75097	75095
Sampling Date	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98
PESTICIDES/PCBs													
Aroclor-1242	--	--	--	0.92	0.28 (0.49)	1.4	3.8	0.86	1	0.53	-- (--)	--	0.5[1]
Aroclor-1248	--	0.14	0.9	--	-- (--)	--	--	--	--	--	0.26 (0.3)	1.2	
Aroclor-1254	--	--	--	--	-- (--)	--	--	--	--	--	0.13 (0.15) P*	--	--
Aroclor-1260	--	--	--	--	-- (--)	--	--	--	--	--	-- (--)	--	--

Sample ID	HA-6			HA-7			HA-8		HA-9		HA-10		
Sample Depth (feet)	2.5-3.0	9.0-9.5	11.5-12.0	1.5-2.0	9.0-9.5	13.0-13.5	2.5-3.0	13.0-13.5	10.0-10.5	14.5-15.0	1.5-2.0	9.0-9.5	11.0-11.5
Lab Sample Number	74500	74498	74499	74505	74503	74504	74502	74501	74510	74509	74506	74508	74507
Sampling Date	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98
PESTICIDES/PCBs													
Aroclor-1242	--	20	0.14	1200	1200	49	--	22	5	50	33	0.37	0.11
Aroclor-1248	0.48	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--

Sample ID	HA-11		HA-12			HA-13			HA-14			HA-15	
Sample Depth (feet)	0.0-0.5	5.5-6.0	0.0-0.5	2.5-3.0	6.0-6.5	0.0-0.5	2.8-3.3	13.0-13.5	0.8-1.3	8.0-8.5	15.5-16.0	8.0-8.5	12.5-13.
Lab Sample Number	75094	75076	75077	75078	75080	75081	75082	75084	75072	75079	75085	75071	75073
Sampling Date	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98
PESTICIDES/PCBs													
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	0.099	--	--	34	--	--	3.8	1.3	2.1	510	1.9	0.095
Aroclor-1248	0.38	--	0.98	--	--	110	0.25	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	0.18	--	0.2	--	--	--	--	--	--	--	--	--	--

Refer to data qualifying notes provided for TABLE VI

TABLE VI
POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL SAMPLES
Hexcel Facility
Lodi, New Jersey

All results are in parts per million (ppm)

Sample ID	HA-1		HA-2			HA-3			HA-4		HA-5		
Sample Depth (feet)	0.1-0.6	4.0-4.5	1.0-1.5	2.0-2.5	5.5-6.0	1.5-2.0	6.5-7.0	9.0-9.5	2.0-2.5	6.0-6.5	1.0-1.5	5.0-5.5	7.0-7.5
Lab Sample Number	75089	75088	75091	75093	75092	75083	75099	75100	75086	75087	75098	75097	75095
Sampling Date	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98
PESTICIDES/PCBs													
Aroclor-1242	--	--	--	0.92	0.28 (0.49)	1.4	3.8	0.86	1	0.53	-- (--)	--	0.5*
Aroclor-1248	--	0.14	0.9	--	-- (--)	--	--	--	--	--	0.26 (--)	1.2	
Aroclor-1254	--	--	--	--	-- (--)	--	--	--	--	--	.13 (0.15) P*	--	--
Aroclor-1260	--	--	--	--	-- (--)	--	--	--	--	--	-- (--)	--	--

Sample ID	HA-6			HA-7			HA-8		HA-9		HA-10		
Sample Depth (feet)	2.5-3.0	9.0-9.5	11.5-12.0	1.5-2.0	9.0-9.5	13.0-13.5	2.5-3.0	13.0-13.5	10.0-10.5	14.5-15.0	1.5-2.0	9.0-9.5	11.0-11.5
Lab Sample Number	74500	74498	74499	74505	74503	74504	74502	74501	74510	74509	74506	74508	74507
Sampling Date	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98	07/29/98
PESTICIDES/PCBs													
Aroclor-1242	--	20	0.14	1200	1200	49	--	22	5	50	33	0.37	0.11
Aroclor-1248	0.48	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--

Sample ID	HA-11		HA-12			HA-13			HA-14			HA-15	
Sample Depth (feet)	0.0-0.5	5.5-6.0	0.0-0.5	2.5-3.0	6.0-6.5	0.0-0.5	2.8-3.3	13.0-13.5	0.8-1.3	8.0-.8.5	15.5-16.0	8.0-8.5	12.5-13.0
Lab Sample Number	75094	75076	75077	75078	75080	75081	75082	75084	75072	75079	75085	75071	75073
Sampling Date	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98	07/30/98
PESTICIDES/PCBs													
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	0.099	--	--	34	--	--	3.8	1.3	2.1	510	1.9	0.095
Aroclor-1248	0.38	--	0.98	--	--	110	0.25	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	0.18	--	0.2	--	--	--	--	--	--	--	--	--	--

Refer to data qualifying notes provided for TABLE VI

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ALDRICH

TABLE VI
POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL SAMPLES
Hexcel Facility
Lodi, New Jersey

All results are in parts per million (ppm)

Sample ID	HA-16		HA-17			HA-18		HA-19		HA-20		HA-21	
Sample Depth (feet)	2.5-3.0	13.5-14.0	4.5-5.0	8.5-9.0	10.0-10.5	6.5-7.0	11.0-11.5	9.0-9.5	13.0-13.5	1.0-1.5	5.5-6.0	5.5-6.0	11.0-11.5
Lab Sample Number	75106	75105	75110	75111	75113	75112	75107	75103	75102	75074	75075	75104	75108
Sampling Date	07/31/98	07/31/98	07/31/98	07/31/98	07/31/98	07/31/98	07/31/98	07/31/98	07/31/98	07/30/98	07/30/98	07/31/98	07/31/98
PESTICIDES/PCBs													
Aroclor-1242	-- (--)	6.6	510	1800	67	0.11	81	0.78	74	0.38	0.73	0.17	0.62
Aroclor-1248	-- (--)	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	-- (--)	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	-- (--)	--	--	--	--	--	--	--	--	--	--	--	--

Sample ID	HA-22		HA-23			HA-24		HA-25		HA-26		HA-27		
Sample Depth (feet)	1.0-1.5	8.0-8.5	2.5-3.0	8.0-8.5	10.8-11.3	8.5-9.0	11.0-11.5	7.5-8.0	11.3-11.8	10.5-11.0	17.5-18.0	2.5-3.0	8.5-9.0	12.0-12.5
Lab Sample Number	75114	75115	80912	80914	80913	80911	80915	80917	80916	80908	80909	80907	80902	80906
Sampling Date	07/31/98	07/31/98	8/28/98	8/28/98	8/28/98	8/28/98	8/28/98	8/28/98	8/28/98	8/28/98	8/28/98	8/28/98	8/28/98	8/28/98
PESTICIDES/PCBs														
Aroclor-1242	--	0.41	0.34	--	--	--	--	--	--	--	--	0.6	--	0.12
Aroclor-1248	3.9	--	--	--	--	--	--	--	--	1.4	0.35	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Sample ID	HA-28			HA-29		HA-30		HA-31			HA-32		
Sample Depth (feet)	2.0-2.5	8.5-9.0	12.5-13.0	8.5-9.0	14.5-15.0	8.6-9.0	15.5-16.0	0-0.5'	2.5-3.0'	15.3-15.8'	0-0.5'	2.5-3.0'	14.5-15.0
Lab Sample Number	80901	80905	80898	80904	80910	80899	80900	151797	151798	151799	151800	151801	151802
Sampling Date	8/28/98	8/28/98	8/28/98	8/28/98	8/28/98	8/28/98	8/28/98	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99
PESTICIDES/PCBs													
Aroclor-1232	--	--	--	-- (--)	--	--	--	--	--	--	--	--	0.26
Aroclor-1242	--	--	--	-- (--)	--	--	--	--	--	9.5	--	--	--
Aroclor-1248	0.43	--	--	-- (--)	--	--	--	170	0.16	--	--	--	--
Aroclor-1254	--	--	--	-- (--)	--	--	--	--	--	--	--	--	--
Aroclor-1260	0.14	--	--	-- (--)	--	--	--	--	--	--	--	--	--

Refer to data qualifying notes provided for TABLE VI

TABLE VI
POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL SAMPLES
Hexcel Facility
Lodi, New Jersey

All results are in parts per million (ppm)

Sample ID	HA-33			HA-34			HA-35			HA-36		
Sample Depth (feet)	0-0.5'	2.5-3.0'	11.2-11.7'	0-0.5'	2.5-3.0'	9.0-9.5	0-0.5'	2.5-3.0'	10.0-10.5'	0-0.5'	2.5-3.0'	8.5-9.0'
Lab Sample Number	151803	151804	151805	151806	151807	151808	151809	151810	151811(12)	151813	151814	151815 (16)
Sampling Date	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99
PESTICIDES/PCBs												
Aroclor-1242	--	--	16	--	--	27	--	--	22 (19)	--	--	--
Aroclor-1248	4.5	--	--	21	--	--	300	0.39	--	2200	6.5	180 (560)
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--

Sample ID	HA-37			HA-38			HA-39			HA-40		
Sample Depth (feet)	0-0.5'	2.5-3.0'	14.5-15.0'	0-0.5'	2.5-3.0'	15.5-16.0'	0-0.5'	2.5-3.0'	11.5-12.0'	0-0.5'	2.5-3.0'	15.3-15.8'
Lab Sample Number	151817	151818	151819	151820	151821	151822	151823	151824	151825	151826	151827	151828
Sampling Date	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99
PESTICIDES/PCBs												
Aroclor-1242	--	--	0.55	--	--	14	--	--	7.5	--	--	--
Aroclor-1248	13,000	68	--	79	--	--	--	--	--	55	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--

Sample ID	HA-41			HA-42			HA-43			HA-44		
Sample Depth (feet)	0-0.5'	2.5-3.0'	11.5-12.0'	0-0.5'	3.0-3.5'	4.0-4.5	0-0.5'	2.5-3.0'	8.0-8.5'	0-0.5'	2.5-3.0'	8.0-8.5'
Lab Sample Number	151829	151830	151831	151832	151833	151834	151835	151836	151837	151838	151839	151840
Sampling Date	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99
PESTICIDES/PCBs												
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	--	170	37	--	--	47	--	--	46
Aroclor-1248	--	--	--	--	--	--	150	0.36	--	740	82	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--

Refer to data qualifying notes provided for TABLE VI

TABLE VI
POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL SAMPLES
Hexcel Facility
Lodi, New Jersey

All results are in parts per million (ppm)

Sample ID	HA-45			HA-46			PCB-1		PCB-2	PCB-3		PCB-4		PCB-5	
Sample Depth (feet)	0-0.5'	2.5-3.0'	14.0-14.5'	0-0.5'	2.5-3.0'	14.5-15.0'	0.0-0.5'	0.8-1.1'	0.0-0.4'	0.0-0.5'	1.5-2.0'	0.0-0.5'	1.5-2.0'	0.0-0.5'	1.2-1.5'
Lab Sample Number	151841	151842	151843	151844	1845 (47)	151846	75077	75078	75081	75072	75079	75077	75078	75081	75082
Sampling Date	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	8/19/99	6/17/99	6/17/99	6/17/99	6/17/99	6/17/99	6/17/99	6/17/99	6/17/99	6/17/99
PESTICIDES/PCBs															
Aroclor-1242	--	--	2.4	--	--	40	--	--	--	--	--	--	--	--	--
Aroclor-1248	100	0.11	--	0.091	-- (0.13)	--	500	48	7.4	(1740) 740	16	6,000	980	26,000	80
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Sample ID	PCB-6	PCB-7		102				103 (MW3)				
Sample Depth (feet)	0.0-0.5'	0.0-0.5'	1.0-1.2'	1.5-2.0'	4.5-5.0'	6.0-6.5'	6.5-7.0'	1.5-2.0'	4.5-5.0'	5.5-6.0'	7.0-7.5'	4.0-24.5'
Lab Sample Number	75077	75081	75082	102-SB02	102-SB03	102-SB04	02-SB05	103-SB02	103-SB03	103-SB04	03-SB05	103-SB06
Sampling Date	6/17/99	6/17/99	6/17/99	9/1/88	9/1/88	9/1/88	9/1/88	8/1/88	8/1/88	8/1/88	8/1/88	8/1/88
PESTICIDES/PCBs												
Aroclor-1242	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	2200	500	160	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	0.26	--	--	--	--	--	--	--	--

Sample ID	104 (MW18)				105					106				
Sample Depth (feet)	1.5-2.0'	5.5-6.0'	6.0-6.5'	7.0-7.5'	1.5-2.0'	1.5-2.0'	4.0-4.5'	6.5-7.0'	7.5-8.0'	1.5-2.0'	1.5-2.0'	4.0-4.5'	6.0-6.5'	6.5-7.0'
Lab Sample Number	104-SB02	104-SB03	104-SB04	104-SB05	105-SB02	105-SB22	05-SB03	105-SB04	105-SB05	106-SB02	06-SB22	106-SB03	106-SB04	06-SB05
Sampling Date	8/1/88	8/1/88	8/1/88	8/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88
PESTICIDES/PCBs														
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	0.27	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Refer to data qualifying notes provided for TABLE VI

TABLE VI
POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL SAMPLES
Hexcel Facility
Lodi, New Jersey

All results are in parts per million (ppm)

Sample ID	107			108			109			110			
Sample Depth (feet)	4.0-4.5'	6.0-6.5'	7.0-7.5'	4.0-4.5'	6.0-6.5'	7.0-7.5'	4.0-4.5'	6.0-6.5'	11.5-12.0'	1.5-2.0'	5.0-5.5'	7.0-7.5'	8.0-8.5'
Lab Sample Number	107-SB01	107-SB02	107-SB03	108-SB01	108-SB02	108-SB03	109-SB01	109-SB02	109-SB03	110-SB02	110-SB03	110-SB04	110-SB05
Sampling Date	8/1/88	8/1/88	8/1/88	8/1/88	8/1/88	8/1/88	8/1/88	8/1/88	8/1/88	9/1/88	9/1/88	9/1/88	9/1/88
PESTICIDES/PCBs													
Aroclor-1242	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--

Sample ID	113	507	508	601(MW7)	602	613	701		702		703		801
Sample Depth (feet)	4.0-5.0	6.0-7.0'	6.0-8.0'	1.5-2.0'	6.5-7.0'	5.0-6.0'	1.5-2.0'	5.5-6.0'	1.0-1.5'	6.0-6.5'	1.5-2.0'	6.0-6.5'	1.5-2.0'
Lab Sample Number	113-003	507-004	508-004	601-SB02	602-SB01	613-004	701-SB02	701-SB03	702-SB01	702-SB03	703-SB02	703-SB03	801-SB02
Sampling Date	4/20/92	4/20/92	4/20/92	7/1/88	12/1/88	4/20/92	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88
PESTICIDES/PCBs													
Aroclor-1242	2.16	--	--	--	13	2.14	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	0.68	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--

Sample ID	901	1101	1302			1303	1401			1502		
Sample Depth (feet)	1.5-2.0'	1.5-2.0'	2.0-2.5'	2.5-4.0'	7.0-7.5'	1.5-2.0'	1.0-1.5'	1.5-2.0'	4.0-4.5'	6.0-7.0'	11.0-11.5'	13.5-14.0'
Lab Sample Number	901-SB02	901-SB03	1302-SB02	1302-SB03	302-SB04	303-SB02	1401-SB01	401-SB02	1401-SB03	1502-SB01	1502-SB02	1502-SB03
Sampling Date	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88	9/1/88
PESTICIDES/PCBs												
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	--	--	--	--	--	--	0.13	0.051	0.014
Aroclor-1248	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--

Refer to data qualifying notes provided for TABLE VI

TABLE VI
POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL SAMPLES
Hexcel Facility
Lodi, New Jersey

All results are in parts per million (ppm)

Sample ID	1503		1504	1505	1506			A10	A11	A12	A13	A14	A15
Sample Depth (feet)	8.5-9.0'	11.5-12.0'	3.5-4.0'	4.0-4.5'	1.5-2.0'	4.5-5.0'	8.0-8.5'	3.5-4.0'	3.5-4.0'	2.0-4.0'	2.0-4.0'	2.0-4.0'	6.0-8.0'
Lab Sample Number	1503-SB01	1503-SB02	1504-SB01	1505-SB01	1506-SB02	1506-SB03	1506-SB04	A10-44119	A11-44121	A12-44109	A13-44110	A14-44111	A15-44401
Sampling Date	6/24/87	6/24/87	6/24/87	6/24/87	8/1/88	8/1/88	8/1/88	8/1/85	8/1/85	8/1/85	8/1/85	8/1/85	8/1/85
PESTICIDES/PCBs													
Aroclor-1242	--	--	0.026	0.15	--	--	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	31	--	10.2	11.8	--	4.39	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--

Sample ID	C-1	C-2	C-3	C-4	C-5	C-6	C-7	C-8	BR-UST-B	BR-UST-E	BR-UST-N	BR-UST-S	BR-UST-W
Sample Depth (feet)	2.0-2.5'	0.5-1.0'	1.5-2.0'	1.5-2.0'	1.5-2.0'	2.0-2.5'	1.5-2.0'	3.5-4.0'	10.0-10.0'	5.0-5.0'	5.0-5.0'	5.0-5.0'	5.0-5.0'
Lab Sample Number	C-1-40317	C-2-40318	C-3-40319	C-4-40320	C-5-40321	C-6-40322	C-7-40323	C-8-40324	BR-UST-B	BR-UST-E	BR-UST-N	BR-UST-S	BR-UST-W
Sampling Date	6/1/85	6/1/85	6/1/85	6/1/85	6/1/85	6/1/85	6/1/85	6/1/85	6/1/91	6/1/91	6/1/91	6/1/91	6/1/91
PESTICIDES/PCBs													
Aroclor-1242	--	--	--	--	--	--	--	--	--	--	0.024	0.032	--
Aroclor-1248	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--

Sample ID	GAS-UST-B	GAS-UST-E	GAS-UST-N	GAS-UST-S	GAS-UST-W	BG01(MW01)	MW33	
Sample Depth (feet)	6.0-6.0'	3.0-4.0'	5.0-5.0'	5.0-5.0'	3.0-4.0'	5.5-6.0'	6.0-8.0'	14.0-16.0'
Lab Sample Number	GAS-UST-B	GAS-UST-E	GAS-UST-N	GAS-UST-S	GAS-UST-W	BG01-SB01	MW33-004	MW33-008
Sampling Date	6/1/91	6/1/91	6/1/91	6/1/91	6/1/91	7/1/88	4/20/92	4/20/92
PESTICIDES/PCBs								
Aroclor-1232	--	--	--	--	--	--	--	--
Aroclor-1242	2.357	--	--	0.187	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--

Refer to data qualifying notes provided for TABLE VI

8821400082

TABLE VII
POLYCHLORINATED BIPHENYLS (PCBs) IN GROUNDWATER (SHALLOW WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	MW-2		MW-4	MW-6		MW-8		MW-10		MW-12		MW-14	
	1988	1998	1998	1988	1998	1988	1998	1988	1998	1988	1998	1988	1998
Aroclor-1016	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	1.4	--	42	--	35	--	1.7	--	--	--	--
Aroclor-1248	86	90	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1262	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1268	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes: All results are in ug/L.
Ground Water Quality Standard for Total PCBs is 0.5 ug/L; GWQS is not available for individual Aroclors.

TABLE VII
POLYCHLORINATED BIPHENYLS (PCBs) IN GROUNDWATER (SHALLOW WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	MW-16		MW-17	MW-18	MW-20		MW-21		MW-22	MW-23		MW-24	
	1988	1998	1998	1993	1990	1998	1990	1998	1998	1995	1998	1990	1998
Aroclor-1016	--	--	--	--	--	--	--	--	--	*	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--	--	*	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--	--	*	--	--	--
Aroclor-1242	--	8.2	150	--	--	--	--	--	5.7	*	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	0.38	--	*	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	*	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	*	--	--	--
Aroclor-1262	--	--	--	--	--	--	--	--	--	*	--	--	--
Aroclor-1268	--	--	--	--	--	--	--	--	--	*	--	--	--

Notes: All results are in ug/L.
Ground Water Quality Standard for Total PCBs is 0.5 ug/L; GWQS is not available for individual Aroclors.

TABLE VII
POLYCHLORINATED BIPHENYLS (PCBs) IN GROUNDWATER (SHALLOW WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	MW-26		MW-27	MW-28		MW-33	CW-3*	CW-5*	CW-7**	CW-9*	CW-11*
	1990	1998	1998	1990	1998	1998	1993	1993	1995	1993	1993
Aroclor-1016	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	4.1	--	--	--	22 (--)	180 (100)	2170	-- (--)	11 (--)
Aroclor-1248	--	--	--	--	0.3	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1262	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1268	--	--	--	--	--	--	--	--	--	--	--

Notes: All results are in ug/L.
Ground Water Quality Standard for Total PCBs is 0.5 ug/L; GWQS is not available for individual Aroclors.
*: Filtered and unfiltered samples were collected from this well. The value in parentheses () indicates results from the filtered sample.
**: The well is reported to have had product in it at the time of sampling.

TABLE VII
POLYCHLORINATED BIPHENYLS (PCBs) IN GROUNDWATER (SHALLOW WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	CW-15**	CW-18*	CW-19	CW-21*
	1993	1993	1993	1993
Aroclor-1016	--	--	--	--
Aroclor-1221	--	--	--	--
Aroclor-1232	--	--	--	--
Aroclor-1242	470 (--)	180 (100)	1.9	-- (--)
Aroclor-1248	--	--	--	--
Aroclor-1254	--	--	--	--
Aroclor-1260	--	--	--	--
Aroclor-1262	--	--	--	--
Aroclor-1268	--	--	--	--

Notes: All results are in ug/L.
Ground Water Quality Standard for Total PCBs is 0.5 ug/L; GWQS is not available for individual Aroclors.
*: Filtered and unfiltered samples were collected from this well. The value in parentheses () indicates results from the filtered sample.
**: The well is reported to have had product in it at the time of sampling.

TABLE VIII
POLYCHLORINATED BIPHENYLS (PCBs) IN GROUNDWATER (DEEP WELLS)
Hexcel Facility
Lodi, New Jersey

Well ID	MW-1		MW-3		MW-5	MW-7		MW-9		MW-11		MW-13		MW-15		MW-19
	1988	1998	1988	1998	1998	1988	1998	1988	1998	1988	1998	1988	1998	1988	1998	1998
Aroclor-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	0.35	--	--	--	--	1.5	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1262	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1268	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes: All results are in ug/L.
Ground Water Quality Standard for Total PCBs is 0.5 ug/L; GWQS is not available for individual Aroclors.

TABLE IX

BASE/NEUTRAL AND ACID EXTRACTABLE EXCEEDANCES IN SOIL SAMPLES

Hexcel Facility

Lodi, New Jersey

Boring ID	Sample Date	Sample ID	Depth (ft.)	Constituent	Concentration (mg/kg)	RDCSCC (mg/kg)	Comments
113	4/20/1992	113-003	4.0-5.0	2,6-Dinitrotoluene	1.2	1	
F1	8/1/1985	F1-44403	1.0-1.0	Benzo(a)anthracene	1.4	0.9	
GAS-UST-B	6/1/1991	REAR TANK BOTTOM	6.0-6.0	Bis(2-ethylhexyl)phthalate	49.3	49	
GAS-UST-W	6/1/1991	REAR TANK WEST	3.0-4.0	Bis(2-ethylhexyl)phthalate	55.8	49	

Notes:

*: Soil Cleanup Criteria (last revised- 5/3/99). The Residential Direct Contact Soil Cleanup Criteria (RDCSCC) is the most stringent criteria for the BNA parameters.

TABLE X
BASE/NEUTRAL AND ACID EXTRACTABLE (BNAs) EXCEEDANCES IN GROUNDWATER
Hexcel Facility
Lodi, New Jersey

SHALLOW WELLS

Well ID	Sample ID	Company	Date	Constituent	Concentration (ug/L)	GWQS
MW-6	536A-MW06-GW01	Environ	8/88	Bis(2-ethylhexyl)Phthalate*	39.0	30
	536A-MW06-GW01DL	Environ	8/88	Bis(2-ethylhexyl)Phthalate*	33.0 J	30
MW-8	536A-MW08-GW01	Environ	8/88	2,4-Dimethylphenol	110.0	100
				2-Chlorophenol	73.0	40
				Phenol	6255.8	4000
MW-14	536A-MW14-GW01	Environ	8/88	Bis(2-ethylhexyl)Phthalate*	38.0	30
MW-16	536A-MW16-GW01	Environ	8/88	Bis(2-ethylhexyl)Phthalate*	210.0	30
CW-3	CW-3	Heritage	10/90	2,4-Dichlorophenol	23.0	20
				2,4-Dinitrotoluene	268.0	10
				2-Chlorophenol	1091.0	40
				Hexachlorobutadiene	48.0	1
				Hexachloroethane	68.0	10
				2,4,6-Trichlorophenol	99.0	5 (IGC, C)
				2-Methylphenol	27.0	5 (IGC, C)
				2-Nitrophenol	721.0	100 (IGC, NC)
				4-Methylphenol	25.0	5 (IGC, C)
				4-Nitrophenol	1644.0	100 (IGC, NC)
				2-Nitroaniline	713.0	100 (IGC, NC)
				4-Chlorophenyl Phenyl Ether	2348.0	100 (IGC, NC)
				Azobenzene	327.0	5 (IGC, C)
				Benzoic Acid	2120.0	100 (IGC, NC)
CW-11	CW-11	Heritage	10/90	4-Methylphenol	15.0	5 (IGC, C)
				2-Methylnaphthalene	177.0	100 (IGC, NC)
				Benzoic Acid	346.0	100 (IGC, NC)
CW12	4576A-CW12/166604	Environ	5/95	2-Chlorophenol	53.0 J	40
				Benzoic Acid	1800.0	100 (IGC, NC)
	4576A-CW12D/166605	Environ	5/95	2-Chlorophenol	98.0 J	40

TABLE X

BASE/NEUTRAL AND ACID EXTRACTABLE (BNAs) EXCEEDANCES IN GROUNDWATER
Hexcel Facility
Lodi, New Jersey

DEEP WELLS

Well ID	Sample ID	Company	Date	Constituent	Concentration (ug/L)	GWQS
MW-7	536A-MW07-GW01	Environ	7/88	Bis(2-ethylhexyl)Phthalate*	39.0	30
MW-9	536A-MW09-GW01	Environ	7/88	Bis(2-ethylhexyl)Phthalate*	32.0	30
MW-13	536A-MW13-GW01	Environ	7/88	Bis(2-ethylhexyl)Phthalate*	49.0	30
	536A-MW13-GW11	Environ	7/88	Bis(2-ethylhexyl)Phthalate*	36.0	30
MW-15	536A-MW15-GW01	Environ	7/88	Bis(2-ethylhexyl)Phthalate*	36.0	30

Notes:

GWQS = Ground Water Quality Standards, N.J.A.C. 7:9-6
(IGC,C) = Interim Generic Ground Water Quality Criteria for carcinogenic synthetic organic chemicals.
(IGC,NC) = Interim Generic Ground Water Quality Criteria for non-carcinogenic synthetic organic chemicals.
J = Estimated Concentration.
* = Bis(2-ethylhexyl)Phthalate was detected in all the ground water samples in 1988. Environ had classified the presence of this compound as "ubiquitous in the environment and sometimes associated with the sampling gloves and/or equipment".

TABLE XI
PRIORITY POLLUTANT METALS (PPMs) EXCEEDANCES IN SOIL SAMPLES
Hexcel Facility
Lodi, New Jersey

Boring ID	Sample Date	Sample ID	Depth (ft.)	Constituent	Concentration (mg/kg)	RDCSCC (mg/kg)	Comments
604	12/1/1988	536A-0604-SB01	13.5-14.0	Cadmium	2.3	1	
607	12/1/1988	536A-0607-SB01	13.0-13.5	Cadmium	3.6	1	
608	12/1/1988	536A-0608-SB01	14.0-14.5	Cadmium	1.9	1	
				Mercury	236.0	14	
801	9/1/1988	536A-0801-SB02	1.5-2.0	Antimony	21.7	14	
				Beryllium	2.8	1	
1101	9/1/1988	536A-1101-SB02	1.5-2.0	Antimony	14.9	14	
				Beryllium	1.4	1	
C-1	6/1/1985	C-1-40317	2.0-2.5	Cadmium	2.0	1	
MW33	4/20/1992	MW33-008	14.0-16.0	Thallium	2.9	2	

Notes:
*: Soil Cleanup Criteria (last revised- 5/3/99). The Residential Direct Contact Soil Cleanup Criteria (*RDCSCC*) is the most stringent criteria for the Priority Pollutant Metals.

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TABLE XII

PRIORITY POLLUTANT METALS (PPMs) EXCEEDANCES IN GROUNDWATER
Hexcel Facility
Lodi, New Jersey

SHALLOW WELLS

Well ID	Sample ID	Company	Date	Constituent	Concentration (ug/L)	GWQS
MW-1	536A-MW01-GW01	Environ	7/88	Arsenic	12.5	8
MW-2*	536A-MW02-GW01	Environ	8/88	Antimony	495.0	20
				Arsenic	14.5	8
				Beryllium	70.0	20
				Cadmium	34.0	4
				Chromium	615.0	100
				Lead	410.0	10
				Mercury	24.9	2
				Nickel	752.0	100
MW-6	536A-MW06-GW01	Environ	8/88	Arsenic	10.5	8
MW-8	536A-MW08-GW01	Environ	8/88	Arsenic	16.1	8
				Lead	13.6	10
				Nickel	175.0	100
MW-10	536A-MW10-GW01	Environ	8/88	Arsenic	11.6	8
				Lead	16.9	10
				Nickel	117.0	100
MW-12	536A-MW12-GW01	Environ	8/88	Arsenic	11.0	8
				Lead	43.6	10
MW-14	536A-MW14-GW01	Environ	8/88	Antimony	98.0	20
				Arsenic	17.0	8
				Lead	12.7	10
MW-16*	536A-MW16-GW01	Environ	8/88	Antimony	962.0	20
				Beryllium	167.0	20
				Cadmium	59.0	4
				Chromium	2000.0	100
				Copper	9040.0	1000
				Lead	1860.0	10
				Mercury	47.5	2
				Nickel	1160.0	100

TABLE XII
PRIORITY POLLUTANT METALS (PPMs) EXCEEDANCES IN GROUNDWATER
Hexcel Facility
Lodi, New Jersey

Well ID	Sample ID	Company	Date	Constituent	Concentration (ug/L)	GWQS
MW-18	536A-MW18-GW01	Environ	8/88	Antimony	209.0	20
				Arsenic	84.0	8
				Lead	27.5	10
				Nickel	325.0	100
MW23	ENSRMW-2	ENSR	5/95	Arsenic	18.1	8
MW-24	MW-24	Heritage	11/90	Lead	150.0	10
MW-25	MW-25	Heritage	11/90	Lead	100.0	10
MW-26	MW-26	Heritage	12/90	Arsenic	21.0	8
				Nickel	140.0	100
MW-28	MW-28	Heritage	11/90	Lead	150.0	10
MW29	ENSRMW-3	ENSR	5/95	Cadmium	4.1	4
				Thallium	43.1	10
MW30	ENSRMW-1	ENSR	5/95	Arsenic	132.0	8
				Cadmium	170.0	4
				Chromium	141.0	100
				Lead	108.0	10
				Nickel	297.0	100
MW31	ENSRMW-4	ENSR	5/95	Arsenic	12.3	8

DEEP WELLS

Well ID	Sample ID	Company	Date	Constituent	Concentration (ug/L)	GWQS
MW-3	536A-MW03-GW01	Environ	8/88	Arsenic	15.6	8
				Lead	10.2	10
MW-7	536A-MW07-GW01	Environ	7/88	Lead	11.3	10

Notes:

GWQS = Ground Water Quality Standards, N.J.A.C. 7:9-6

* = Verification samples were collected in 12/88 for MW-2 and MW-16; these samples did not have exceedence for any metals.

TABLE XIII
SEDIMENT AMPLING RESULTS
Hexcel Facility
Lodi, New Jersey

Sample ID		S-1		S-1		S-2		S-2		S-3		S-3		S-4		S-4	
Sample Date		10/10/97		10/10/97		10/10/97		10/10/97		10/10/97		10/10/97		10/10/97		10/10/97	
Sample Depth		0 to 6"		6 to 12"		0 to 6"		6 to 12"		0 to 6"		6 to 12"		0 to 6"		6 to 12"	
Collected By:		H&A		H&A		H&A		H&A		H&A		H&A		H&A		H&A	
Laboratory ID		274170		274171		274172		274173		274175		274174		274176		274177	
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
PCBs																	
Aroclor-1242	ug/Kg	2700		300000		550		2500		130		47 J		560		1100	
Total PCBs	ug/Kg	2700		300000		550		2500		130		47 J		560		1100	
TOC	mg/Kg	896		584		1410		708		453		656		964		460	

Sample ID		S-5		S-5		S-6		S-6		S-7		S-7		FIELD BLANK*	
Sample Date		10/10/97		10/10/97		10/10/97		10/10/97		10/10/97		10/10/97		10/10/97	
Sample Depth		0 to 6"		6 to 12"		0 to 6"		6 to 12"		0 to 6"		6 to 12"			
Collected By:		H&A		H&A		H&A		H&A		H&A		H&A		H&A	
Laboratory ID		274178		274179		274180		274181		274182		274183		274050	
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
PCBs															
Aroclor-1242	ug/Kg	--	59	--	58	--	62	--	59	--	130	--	64	--	1
Total PCBs	ug/Kg	--		--		--		--		--		--		--	
TOC	mg/Kg	857		325		367		737		1080		918		--	1

Notes:
Samples S-1 through S-8 were collected by Haley & Aldrich, Inc. for Hexcel Corp.
J: Estimated Concentration.
*: The reporting units for the H&A Field Blank collected on 10/10/97 are ug/L for PCBs and mg/L for TOC.
-- : The compound was not detected. The laboratory method detection limit (MDL), if available, is provided next to the testing result.

TABLE XIII
SADDLE RIVER SEDIMENT TESTING RESULTS: PCBs & TOC
Hexcel Facility
Lodi, New Jersey

Sample ID		SDSR-SS01		SDSR-SS02		P-1		P-2		P-3		SED-UP		SED-DOWN	
Sample Date		Jun-87		Jun-87		9/27/96		9/27/96		9/27/96		4/28/95		4/28/95	
Sample Depth						0 TO 6"		0 TO 6"		0 TO 6"		0 TO 6"		0 TO 6"	
Collected By:		ENVIRON		ENVIRON		ENSR		ENSR		ENSR		ENSR		ENSR	
Laboratory ID						63789		63790		63791		23861		23862	
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
PCBs															
Total PCBs	ug/Kg	300		2400		160		--	81	--	83	200		--	
TOC	mg/Kg											7450		6570	

Sample ID		Site#1		Site#2	Site#3	Site#4	Site#5	Site#6	Site#7	Site#8
Sample Date		Dec-83		Dec-83	Dec-83	Dec-83	Dec-83	Dec-83	Dec-83	Dec-83
Sample Depth										
Collected By:		Army Corps		Army Corps	Army Corps	Army Corps	Army Corps	Army Corps	Army Corps	Army Corps
Laboratory ID										
	Units	Result	MDL							
PCBs										
Total PCBs	ug/Kg	20		80	370	80	40	--	110	210
TOC	mg/Kg	11073		8907	7989	5176	8345	15240	14147	27174

Notes:
Individual Aroclor data are not available for results tabulated on this page.
Samples SDSR-SS01 and SDSR-SS02 were collected by Environ for Hexcel Corp. (Reference: Summary Report of Preliminary Environmental Sampling at the Fine Organics Corp., Oct 1987)
Samples P-1 through P-3 were collected by ENSR for Napp Technologies, Inc. (Reference: Remedial Invetigation Report/Remedial Investigation Workplan Addendum, June 1997)
Samples SED-UP and SED-DOWN were collected by ENSR for Napp Technologies, Inc. (Reference: Figure C-3, Remedial Invetigation Report, Feb.1996)
Samples Site#1 through Site#8 were collected by the U.S. Army Corps of Engineers (Reference: Interim Report on Flood Protection Feasibility Lower Saddle River, Bergen Co, N.J., Aug 1984)
J: Estimated Concentration.
-- : The compound was not detected. The laboratory method detection limit (MDL), if available, is provided next to the testing result.

TABLE XIV
REPRESENTATIVE 2-PHASE EXTRACTION PROJECTS IMPLEMENTED BY HALEY & ALDRICH, INC.

PROJECT	SIZE IN PLAN VIEW (ACRES)	DEPTH (Ft.)	TYPE OF SOIL	PERMEABILITY (cm/sec)	NO. OF MONTHS IN OPERATION	MASS REMOVAL (Lbs. over months of operation or removal rate)	CONTAMINANTS
*Xerox Corporation Irvine, California	14	15-70	Clay	10^{-7}	28	>2,500	Chlorinated Solvents
Product Terminal Long Beach, California	4	30	Very Heterogeneous	10^{-6}	1 Week	12 lbs./hr	Gasoline/Floating Products
Xerox Building 209 Webster, NY (Full Scale)	6.7	30 - 35	Fill, Glacial Till, Lacustrine	10^{-4} to 10^{-5}	40	>20,000	Chlorinated Solvents and Mineral Spirits (LNAPL)
Xerox Blauvelt Site Blauvelt, NY (Full Scale)	≈ 15	25	Glacial Till	10^{-4} to 10^{-5}	30	>35,000	Chlorinated Solvents and Mineral Spirits (LNAPL)
Manufacturing Site Illinois (Full Scale)	1.5	20	Low-Permeability Clays and Silts	10^{-6} to 10^{-7}	8	5,300	Chlorinated and Stoddard Solvents
Xerox Building 801 Henrietta, NY (Full Scale)	2	15	Lacustrine Silt and Clay, Glacial Till	10^{-4} to 10^{-6}	31	8,400	Chlorinated Solvents and Mineral Spirits (LNAPL)
Manufacturing Site Rochester, NY (Full Scale)	200 ft^2	16	Clayey Till	10^{-7} to 10^{-8}	2	150	TCE
Gasoline Station New Hampshire (Pilot Test)	10,000 ft^2	20	Shallow Low-Permeability Fill, Clay	10^{-5}	3-Day Test	3,240	Petroleum Products (Gasoline with Floating Product)
Xerox Salt Road Complex Webster, NY (Full-Scale)	10,000 ft^2	20	Glacial Till	10^{-4}	12 months	30 lbs./day	Chlorinated Solvents

TABLE XIV
REPRESENTATIVE 2-PHASE EXTRACTION PROJECTS IMPLEMENTED BY HALEY & ALDRICH, INC.

PROJECT	SIZE IN PLAN VIEW (ACRES)	DEPTH (Ft.)	TYPE OF SOIL	PERMEABILITY (cm/sec)	NO. OF MONTHS IN OPERATION	MASS REMOVAL (Lbs. over months of operation or removal rate)	CONTAMINANTS
Gasoline Station Richmond, Virginia (Pilot Test)	2	27	Clay, Silt, Micaceous Sands	10^{-5}	3-Day Test	15-20 lbs./day	BTEX Compounds with Free-Phase Product
Former Manufacturing Site Cincinnati, Ohio (Pilot Test)	15	30 - 35	Fill, Till, and Confined Sand	10^{-3} to 10^{-6}	2-Day Test	10-15 lbs./day	Chlorinated Solvents Including DNAPL
Former Manufacturing Site Boston, MA (Full-Scale)	2.5	25	Fill, Glacial Till, and Decomposed Rock	10^{-4}	12	5 lbs./day	Chlorinated Solvents and Cutting Oils
Petroleum Refinery Lake Charles, LA (Pilot Test)	17	15 40	Peat Confined sand layer	10^{-7} to 10^{-8} 10^{-4}	5-Day Test	10-20 lbs./hr	1,2-DCA
Gasoline Transfer Station, New York (Pilot Test)	320,000 ft^2	10	Sand and Gravel	10^{-1} to 10^{-2}	2-Day Test	550 gallons of free product	Gasoline / Free Product Recovery
Former Metals Manufacturing Co. Boston Area	3	20	Fill, Clay	10^{-6}	3 Months	900 pounds to date	Chlorinated Solvents
Product Terminal Facility Albuquerque, NM	3	110	Arid Alluvial Deposit	10^{-3} to 10^{-4}	2 weeks	>50lbs./day	Gasoline / Free Product Recovery
Packaging Facility Mercedes, TX (Pilot Test)	30,000 ft^2	17	"Beach" Sand	10^{-3}	2-Day Test	300 lbs./day	Gasoline / Free-Product Recovery

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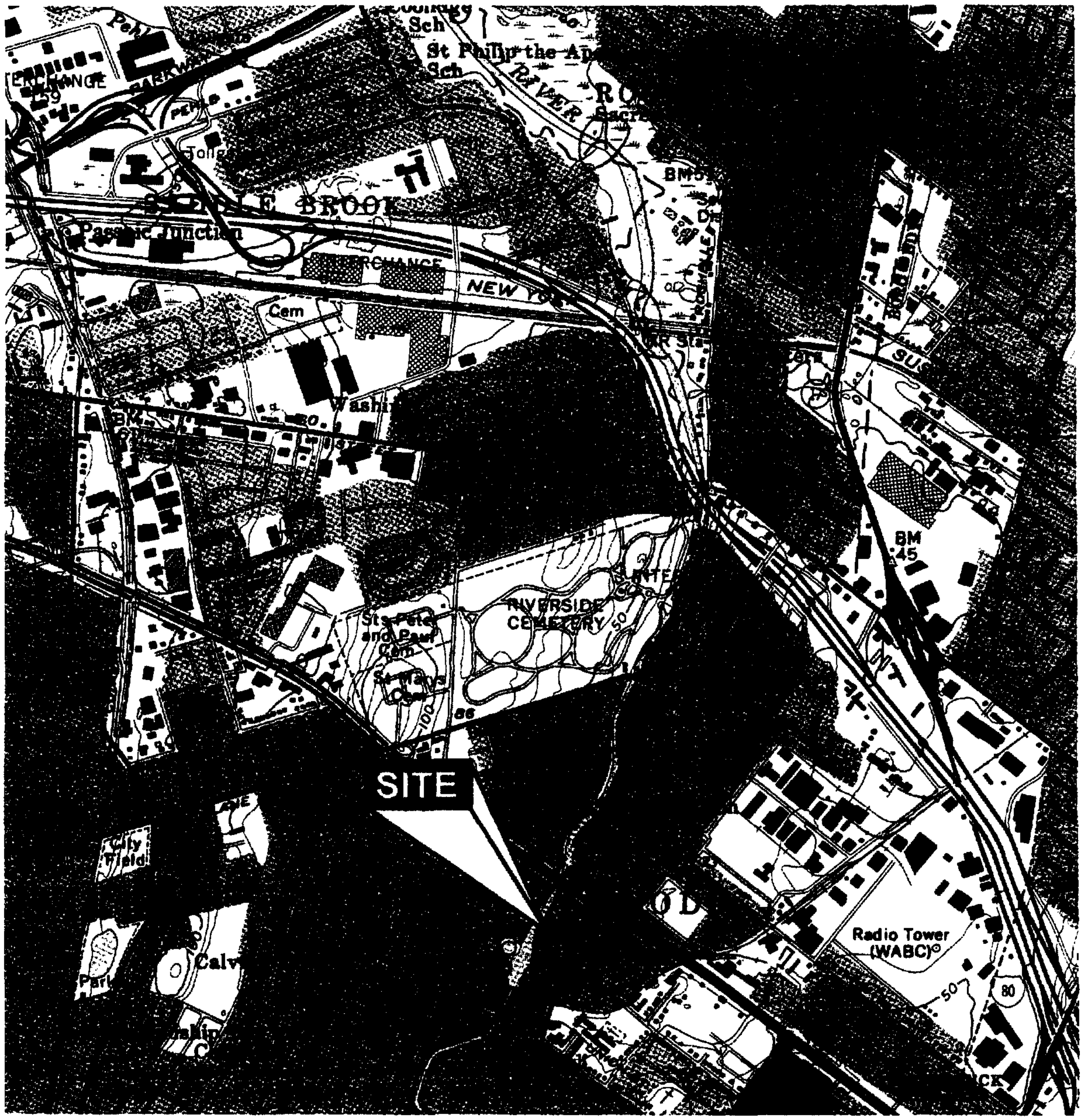
TABLE XIV
REPRESENTATIVE 2-PHASE EXTRACTION PROJECTS IMPLEMENTED BY HALEY & ALDRICH, INC.

PROJECT	SIZE IN PLAN VIEW (ACRES)	DEPTH (Ft.)	TYPE OF SOIL	PERMEABILITY (cm/sec)	NO. OF MONTHS IN OPERATION	MASS REMOVAL (Lbs. over months of operation or removal rate)	CONTAMINANTS
*Xerox Oak Brook Oak Brook, IL (Full Scale)	12	15	Weathered and Unweathered Clay	10^{-7} to 10^{-8}	14	5,000	Chlorinated Solvents and Mineral Spirits (site closed)
Former Chemical Distribution Facility Denver, Colorado (Pilot Test)	15	20	Silty Sand overlaying Alluvium Units	10^{-3} to 10^{-6}	30 Day Test	2,500	Chlorinated Solvents and Mineral Spirits

* Site is Closed.

FIGURES



NOTE:
THE BUILDINGS SHOWN AT THE SITE IN THE USGS MAP WERE DEMOLISHED IN 1999.

SOURCE:
HACKENSACK QUADRANGLE, NEW JERSEY, USGS 7.5 MINUTE SERIES (TOPOGRAPHIC), DATED 1955, PHOTOREVISED 1981.

FILE: SITEMAP.PSD 74167-017

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

160 MINERAL SPRING DRIVE
DOVER, NEW JERSEY 07801
TEL: 973-361-3600
FAX: 973-361-3800

HEXCEL FACILITY
LODI, NEW JERSEY

SITE LOCATION MAP

SCALE: 1"=2000'

NOVEMBER 1999

FIGURE 1

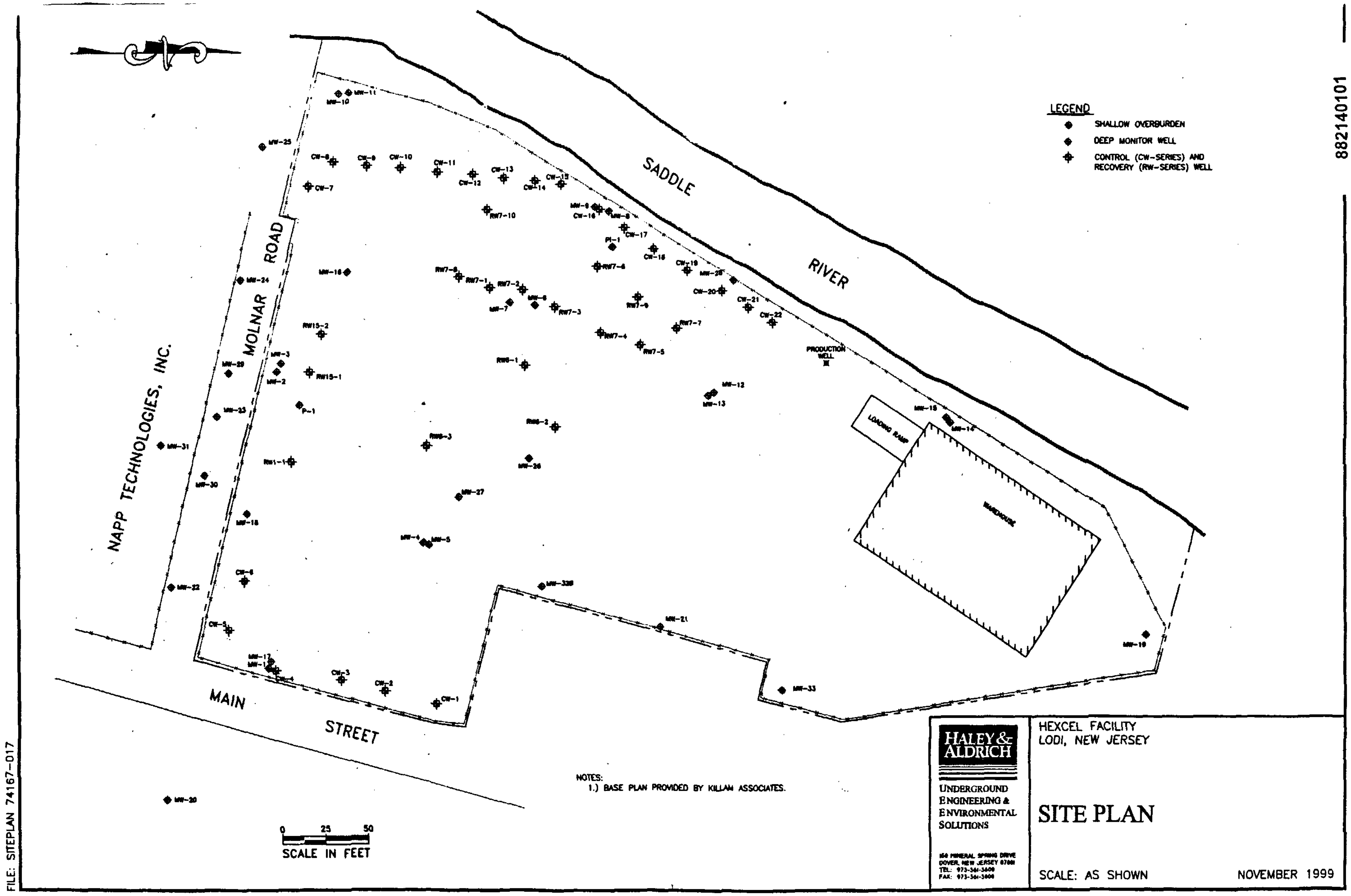

LEGEND
SHALLOW OVERBURDEN
DEEP MONITOR WELL
CONTROL (CW-SERIES) AND RECOVERY (RW-SERIES) WELL
882140101
SADDLE RIVER
MOLNAR ROAD
NAPP TECHNOLOGIES, INC.
MAIN STREET
PRODUCTION WELL
LOADING RAMP
WAREHOUSE
NOTES:
1.) BASE PLAN PROVIDED BY KILLAM ASSOCIATES.
0 25 50
SCALE IN FEET
FILE: SITEPLAN 74167-017
HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS
HEXCEL FACILITY
LODI, NEW JERSEY
SITE PLAN
SCALE: AS SHOWN
NOVEMBER 1999

FIGURE 2

Existing Building (Warehouse)

Floor slabs remaining after demolition (Napp Technologies can be seen in background)

HALEY & ALDRICH

FIGURE 3

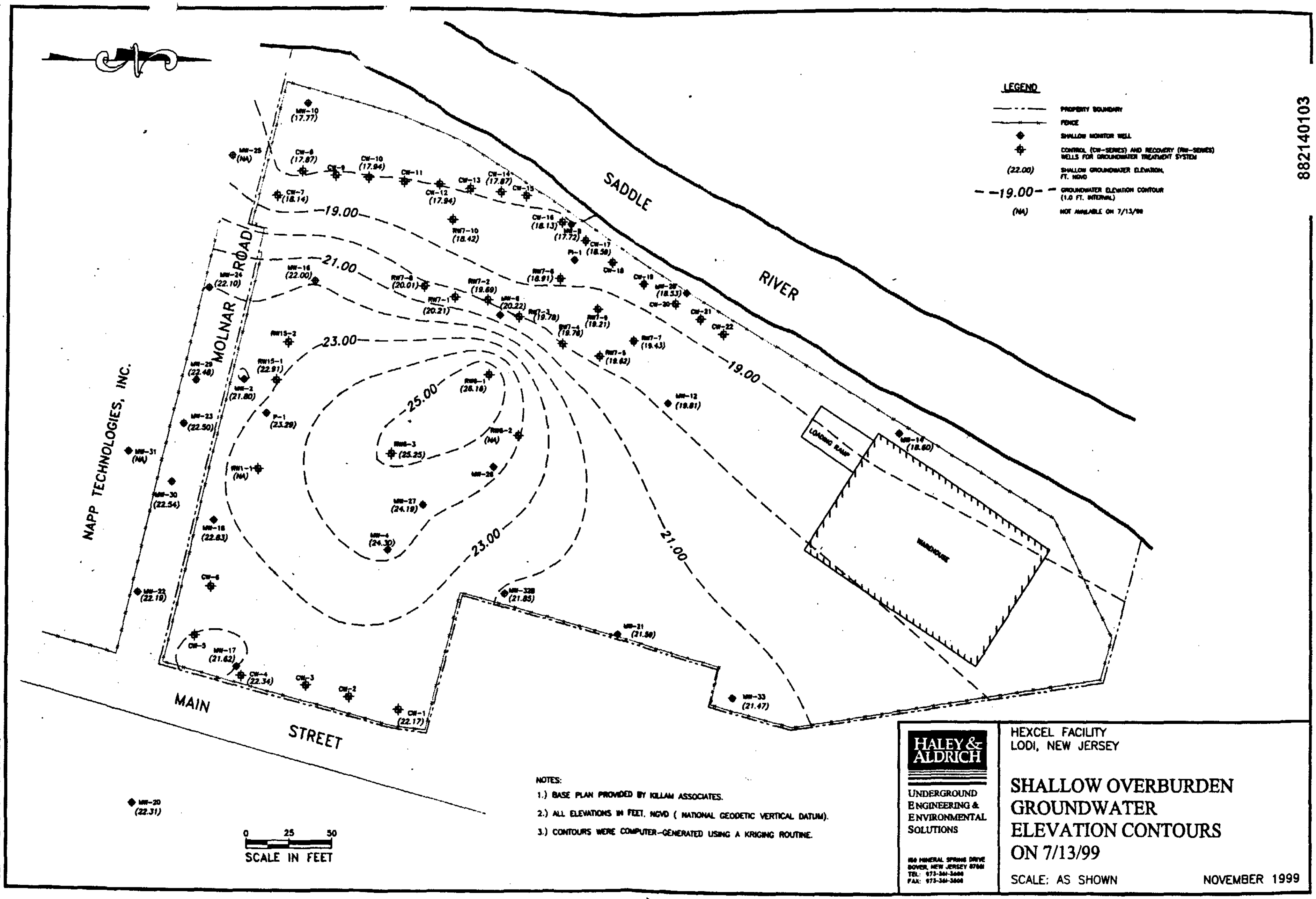
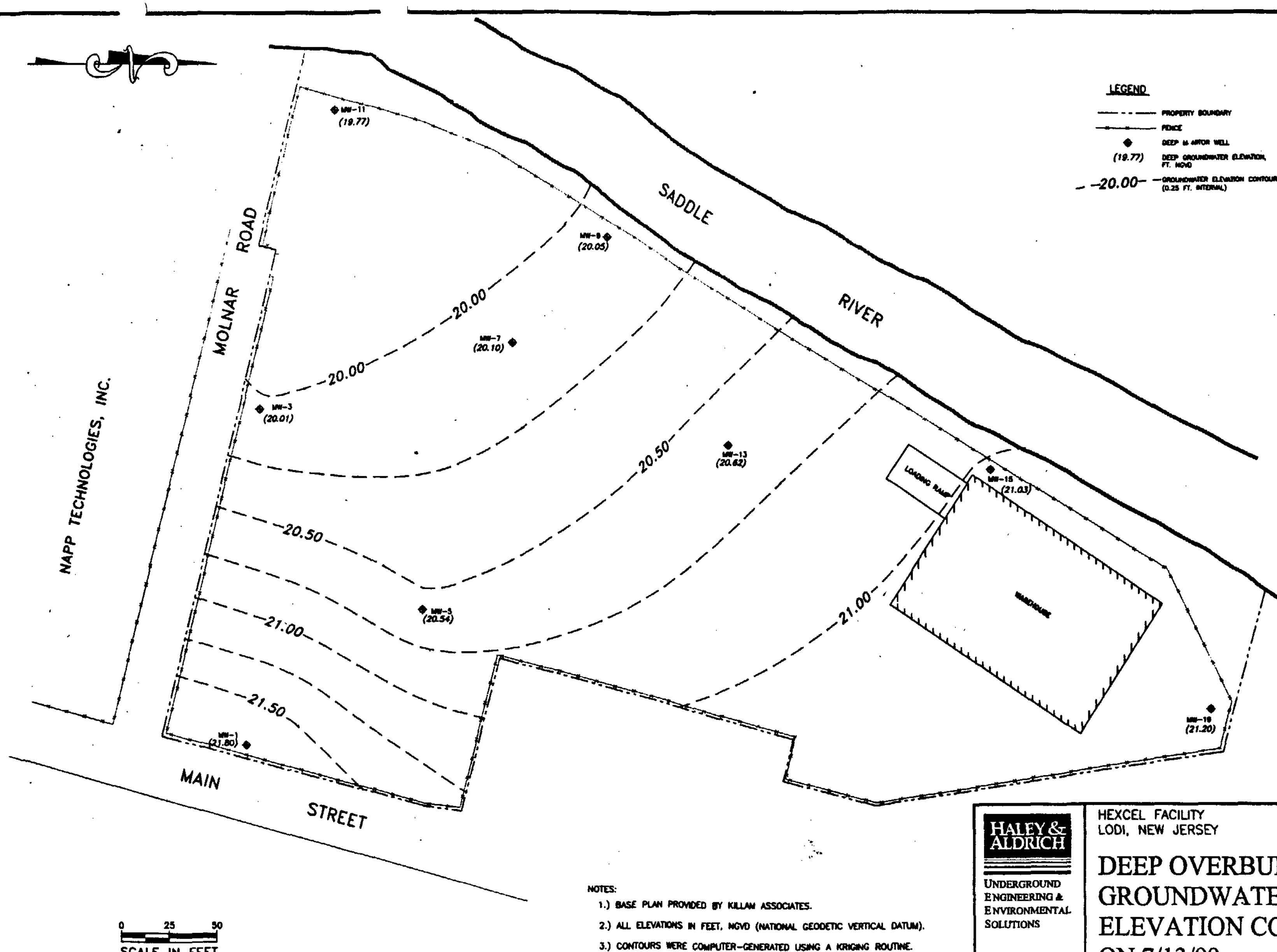


FIGURE 5

882140103



NOTES:

1.) BASE PLAN PROVIDED BY KILLAM ASSOCIATES.

2.) ALL ELEVATIONS IN FEET, NGVD (NATIONAL GEODETIC VERTICAL DATUM).

3.) CONTOURS WERE COMPUTER-GENERATED USING A KRIGING ROUTINE.

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

HEXCEL FACILITY
LODI, NEW JERSEY

DEEP OVERBURDEN GROUNDWATER ELEVATION CONTOURS ON 7/13/99

SCALE: AS SHOWN

NOVEMBER 1999

FILE: DEEP-GWC 74167-004

882140104

FIGURE 6

NOTICE ABOUT OVERSIZED MAP

THIS MAP IS AN OVERSIZED DOCUMENT. IT IS AVAILABLE FOR REVIEW AT THE U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NEW YORK, NY 10007
PHONE: (212) 637-4308.

HEXCEL FACILITY
LODI, NEW JERSEY

SOIL SAMPLE LOCATIONS TESTED FOR VOLATILE ORGANIC COMPOUNDS (VOCs)

SCALE: AS SHOWN

NOVEMBER 1999

882140105

NOTICE ABOUT OVERSIZED MAP

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PHONE: (212) 637-4308.

HEXCEL FACILITY
LODI, NEW JERSEY

SOIL SAMPLE LOCATIONS TESTED FOR POLYCHLORINATED BIPHENYLS (PCBs)

SCALE: AS SHOWN

NOVEMBER 1999

NOTICE ABOUT OVERSIZED MAP

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PHONE: (212) 637-4308.

HEXCEL FACILITY
LODI, NEW JERSEY

SOIL SAMPLE LOCATIONS TESTED FOR BASE/NEUTRAL AND ACID EXTRACTABLE COMPOUNDS (BNAs)

SCALE: AS SHOWN

NOVEMBER 1999

882140106A

NOTICE ABOUT OVERSIZED MAP

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PHONE: (212) 637-4308.

HEXCEL FACILITY
LODI, NEW JERSEY

SOIL SAMPLE LOCATIONS TESTED FOR PRIORITY POLLUTANT METALS (PPMs)

SCALE: AS SHOWN

NOVEMBER 1999

882140107

NOTICE ABOUT OVERSIZED MAP

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PHONE: (212) 637-4308.

HALEY & ALDRICH

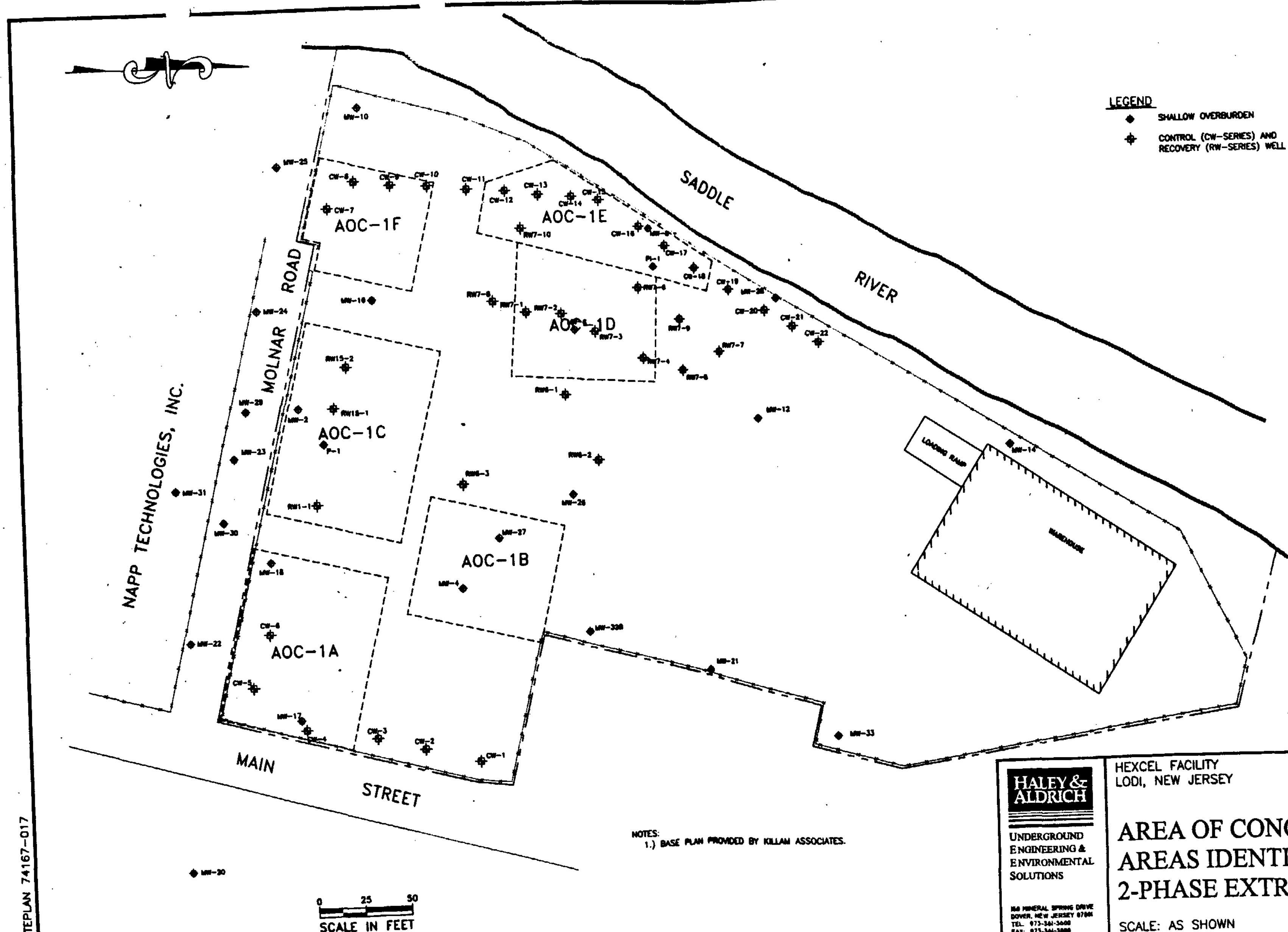
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

150 MINERAL SPRING DRIVE
DOVER, NEW JERSEY 07801
TEL: 973-361-3600
FAX: 973-361-3800

HEXCEL FACILITY
LODI, NEW JERSEY

SOIL SAMPLE LO
TESTED FOR BA
AND ACID EXTR
COMPOUNDS (B

SCALE: AS SHOWN



NOTES:
1.) BASE PLAN PROVIDED BY KILLAM ASSOCIATES.

FILE: SITEPLAN 74167-017

882140108

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

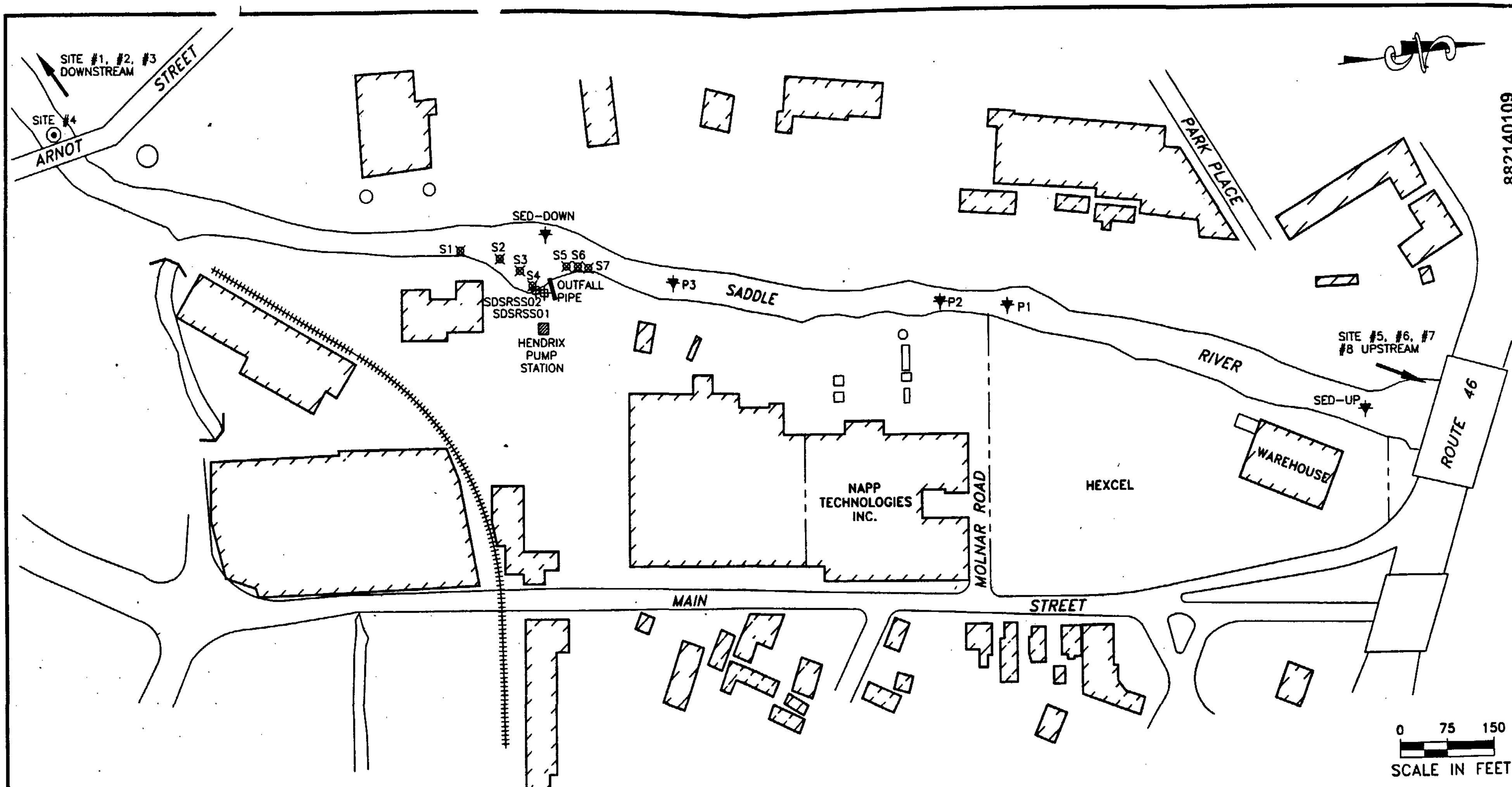
HEXCEL FACILITY
LODI, NEW JERSEY

AREA OF CONCERN, AOC-1: AREAS IDENTIFIED FOR 2-PHASE EXTRACTION

SCALE: AS SHOWN

NOVEMBER 1999

FIGURE 11



882140109

LEGEND

- SEDIMENT SAMPLE LOCATION COLLECTED BY HALEY & ALDRICH, OCTOBER 1997
- SEDIMENT SAMPLE LOCATION COLLECTED BY ENSR, APRIL 1995 AND SEPTEMBER 1996
- SEDIMENT SAMPLE LOCATION COLLECTED BY ENVIRON, JUNE 1987
- SEDIMENT SAMPLE LOCATION COLLECTED BY ARMY CORPS OF ENGINEERS, DECEMBER 1983

NOTES:

1. BASE PLAN FROM "DELINEATION OF FLOODWAY AND FLOOD HAZARD AREA", BY THE STATE OF NEW JERSEY DEPT. OF ENVIRONMENTAL PROTECTION, DIVISION OF WATER RESOURCES, PLATE NO. 2, DATED FEBRUARY 1986.

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

HEXCEL FACILITY
LODI, NEW JERSEY

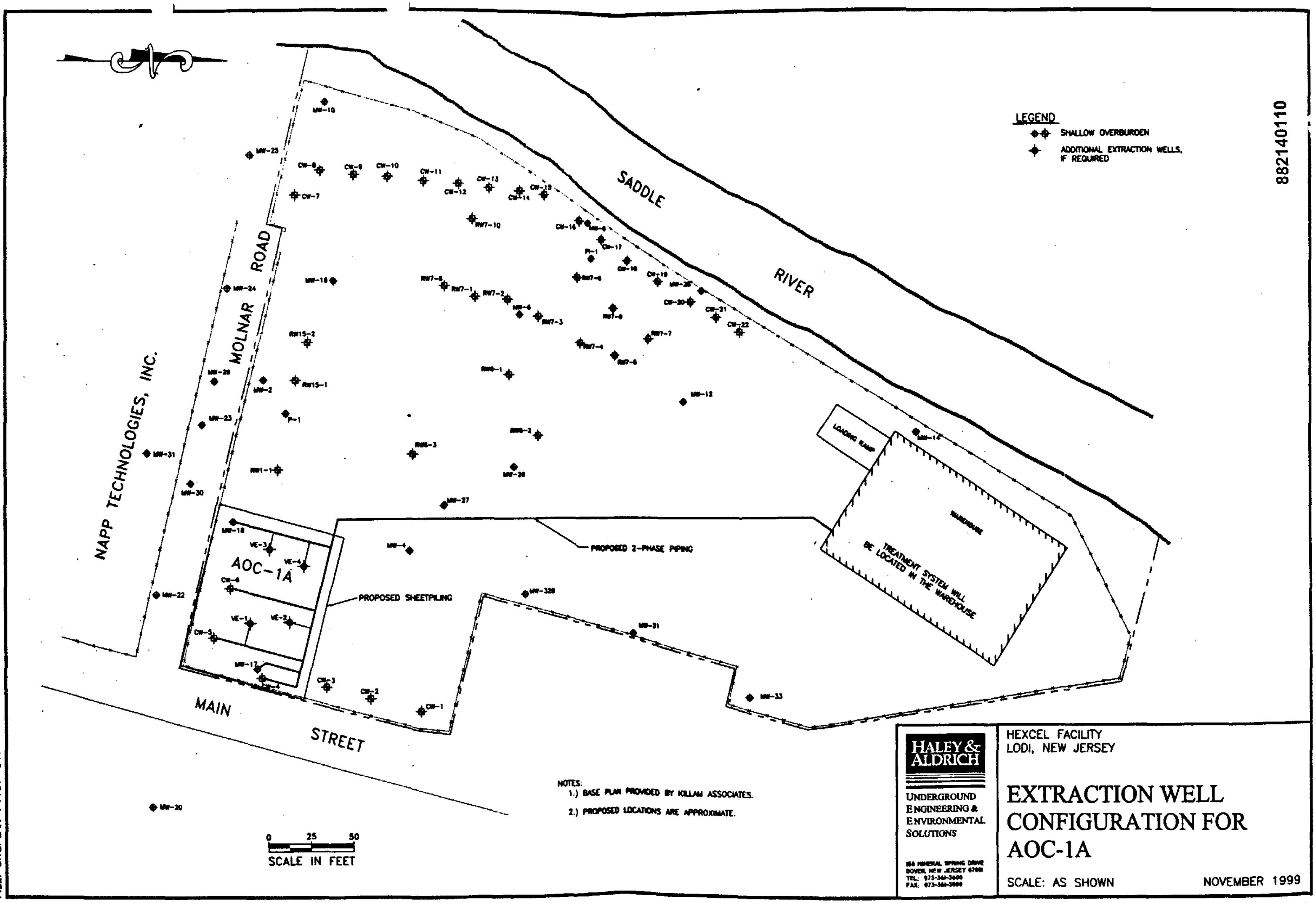
SEDIMENT SAMPLING LOCATIONS

SCALE: AS SHOWN

NOVEMBER 1999

FILE: SEDIMENT 74167-017

FIGURE 12



HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

HEXCEL FACILITY
LODI, NEW JERSEY

EXTRACTION WELL CONFIGURATION FOR AOC-1A

SCALE: AS SHOWN

NOVEMBER 1999

FIGURE 13

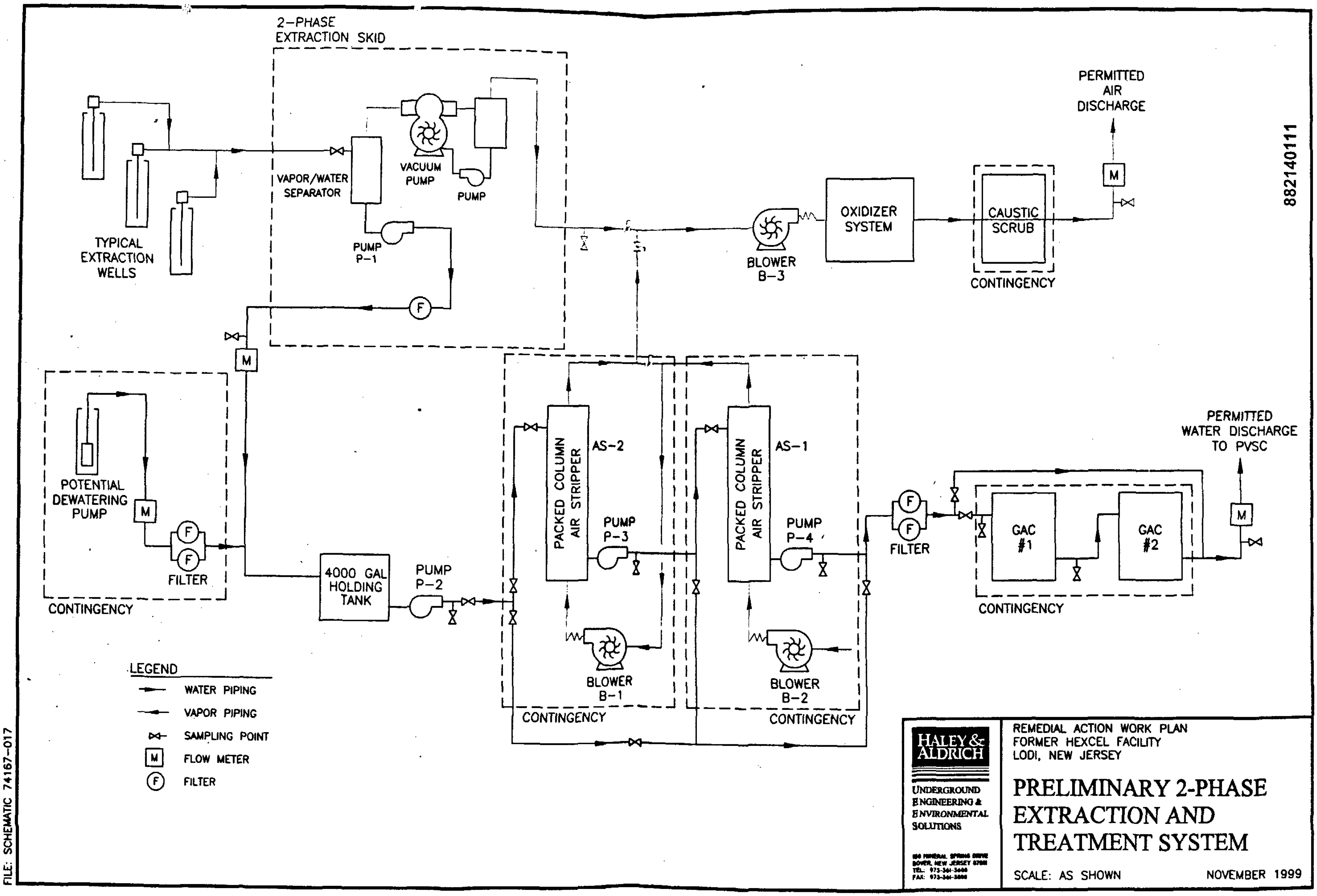

2-PHASE EXTRACTION SKID
TYPICAL EXTRACTION WELLS
VAPOR/WATER SEPARATOR
VACUUM PUMP
PUMP
PUMP P-1
F
M
PERMITTED AIR DISCHARGE
OXIDIZER SYSTEM
CAUSTIC SCRUB
BLOWER B-3
CONTINGENCY
POTENTIAL DEWATERING PUMP
FILTER
CONTINGENCY
4000 GAL HOLDING TANK
PUMP P-2
PACKED COLUMN AIR STRIPPER
AS-2
PUMP P-3
BLOWER B-1
CONTINGENCY
PACKED COLUMN AIR STRIPPER
AS-1
PUMP P-4
BLOWER B-2
CONTINGENCY
FILTER
GAC #1
GAC #2
CONTINGENCY
PERMITTED WATER DISCHARGE TO PVSC
LEGEND
WATER PIPING
VAPOR PIPING
SAMPLING POINT
FLOW METER
FILTER
FILE: SCHEMATIC 74167-017
882140111
HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS
REMEDIAL ACTION WORK PLAN
FORMER HEXCEL FACILITY
LODI, NEW JERSEY
PRELIMINARY 2-PHASE EXTRACTION AND TREATMENT SYSTEM
SCALE: AS SHOWN
NOVEMBER 1999

FIGURE 15

Appendix A

Hydrological Testing Report

Woodward-Clyde

TO:	Mr. Robert Shusko GEO ENGINEERING, INC 150 Mineral Spring Drive Dover, NJ 07801	DATE: NAME: PROJECT NO.:	February 5, 1996 Greg Thomas 85C4445 D

Transmittal

X Enclosed	_ Copy of Letter	_ Prints	_ As Requested
_ Under Separate Cover	_ Contracts	_ Photostats	_ Approved
	_ Documents	_ Tracings	_ Approved As Noted
X First Class Mail	X Test Results	_ Sepias	_ Re-Submit
_ Messenger	_ Specifications	_ For Comments	_ Return
_ Special Delivery	_ Drilling Logs	_ For Approval	_ Corrected Prints
_ Air Mail	_ Photos	_ For Your Use	_
_ Fed. Express	_ Project Memo	_ For Your Files	

ITEM NO.	DESCRIPTION
1	Test results for HEXCEL Site per request of Sunila Gupta

REMARKS:

Copies to: file
/d001trm.doc

From: Gregory Thomas

Geotechnical Laboratory
45 H Commerce Way
Totowa, NJ 07512
• (201) 812-1818 • Fax (201) 812-8640

882140113

Project No.: 85C4445-D File: INDX1.XLS

TABLE ________

LABORATORY TESTING ASSIGNMENT AND DATA SUMMARY

BORING NO.	SAMPLE NO.	DEPTH (ft)	IDENTIFICATION TESTS: WATER CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT (1)	PLAS. IND.	USCS SYMB. (2)	SIEVE MINUS NO. 200 (%)	HYDROMETER % MINUS 2 um (%)	TOTAL UNIT WEIGHT (pcf)	SPECIFIC GRAVITY	POROSITY	REMARKS
S3	3	9-11	18.4							131.9	2.706	0.341	
S3	3	top	18.6										
S3	3	9.25			np		ML	94.5	7		2.706		
S3	3	mid	18.2										
S9	3	8-11	19.7				SM	16.4	2	95.3/119.5	2.657	0.520/0.398	loose and compacted unit weights
S9	4	11-12	10.8				GP-GM	9.4	1	112.9/137.4	2.685	0.392/0.260	loose and compacted unit weights
S10	4	14-15	16.4				SP	2.1					
S12	3		20.4		np		ML	97.8	7	131.5	2.724	0.358	
S13	1	0-4	8.0				GM	15.8	3	92.7/115.0	2.701	0.491/0.369	loose and compacted unit weights
S13	4		18.4		np		ML	98.5	10	141.4	2.726	0.298	
S14	4	11.5-14	10.2				GP-GM	10.6	1	114.4/138.9	2.685	0.381/0.248	loose and compacted unit weights
S16	4		20.1		np		ML	98.2	7	139.2	2.721	0.318	

Note: (1) np indicates material non-plastic. Unable to determine liquid limit.
(2) Plasticity of fines for USCS symbol based on visual observation unless Atterberg limits reported.

Prepared by: CMJ Reviewed by: [illegible] Date: 2/5/96

Project No.: 85C4445-D File: PERM1.XLS

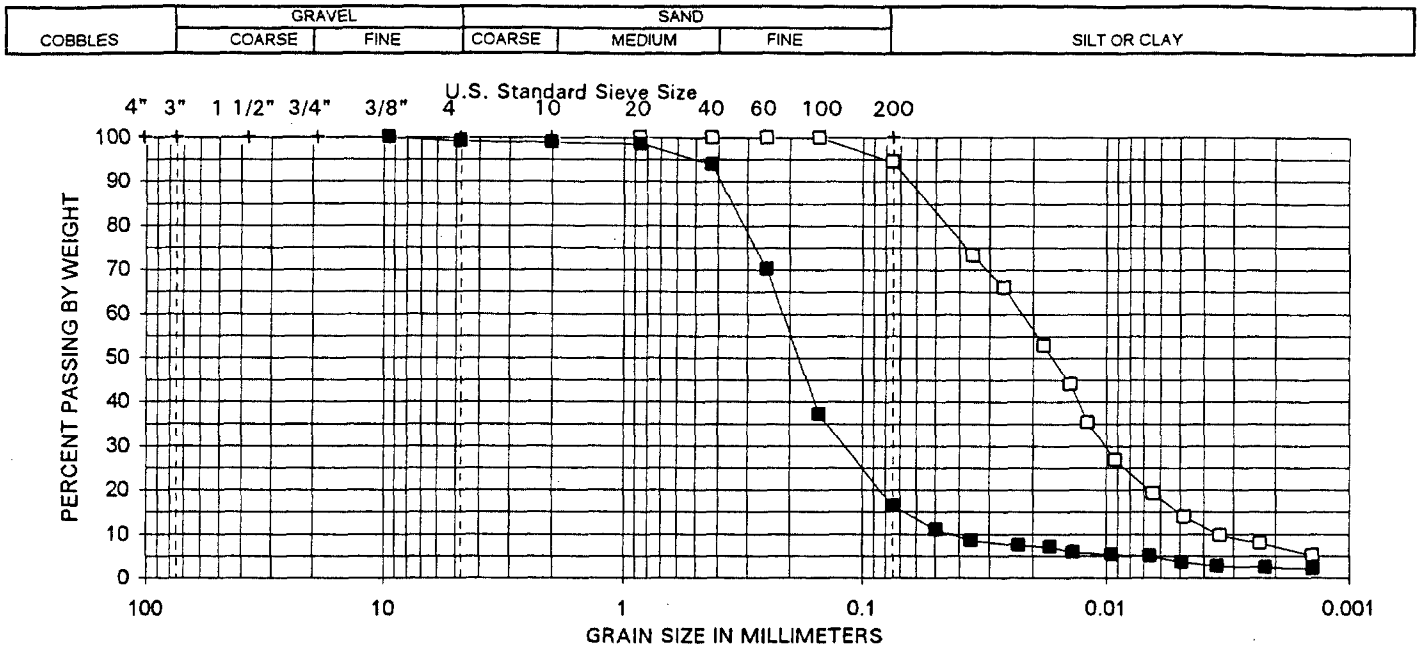
TABLE ______

SUMMARY OF LABORATORY PERMEABILITY TESTS PERFORMED ON THIN-WALLED TUBE SAMPLES

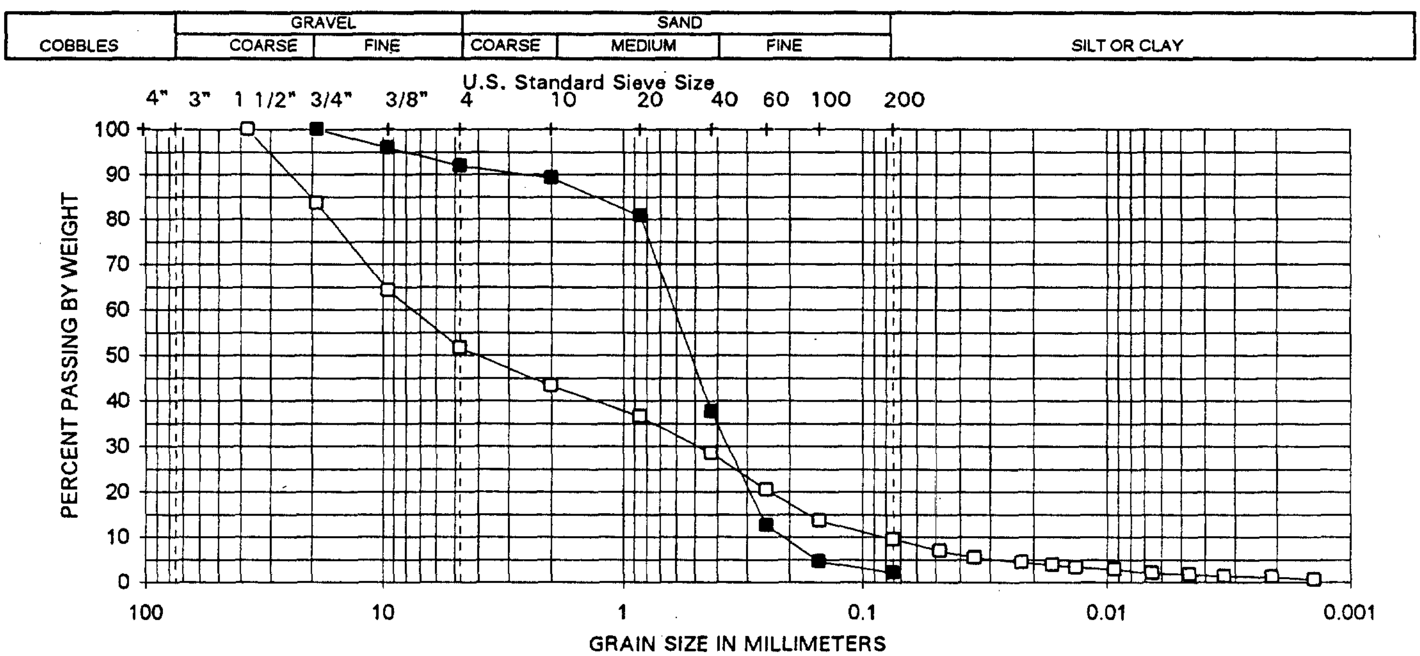
BORING NO.	SAMPLE NO.	DEPTH	WATER CONTENTS	TOTAL UNIT WGTS	DRY UNIT WGTS	STRESSES	DURING CONSOL.	DURING TEST	COEFFICIENT OF PERM. K, (@ 20 C)	REMARKS
			INITIAL	INITIAL	INITIAL	EFFECTIVE	TIME	PERMEANT		
		(ft)	PRE-TEST (%)	PRE-TEST (pcf)	PRE-TEST (pcf)	BACK PRESSURE (psi)	VOLUMETRIC STRAIN (days, %)	INITIAL GRADIENT	(cm/sec)	
S-12	3		20.4	131.5	109.2	7.0	2	site water	4.8E-6	
			18.8	134.4	113.2	100.0	3.50	20		
S-13	4		18.4	141.4	119.4	7.0	2	site water	5.5E-6	
			17.0	145.1	124.0	100.0	3.70	20		
S-16	4		20.1	139.2	115.9	7.0	1	site water	3.1E-6	
			19.2	141.6	118.8	100.0	2.40	19		

Prepared by: CMJ Reviewed by: [illegible] Date: 1/11/96

PARTICLE-SIZE DISTRIBUTION



BORING	SAMPLE	DEPTH (FT)	SYMBOL	DESCRIPTION	w (%)	LL	PL
S3	3A	9.25	□	ML, brown non-plastic SILT, trace f. sand.	---	---	np
S9	3	8-11	■	SM, brown f. SAND, some silt, trace c-m sand.	19.7	---	---



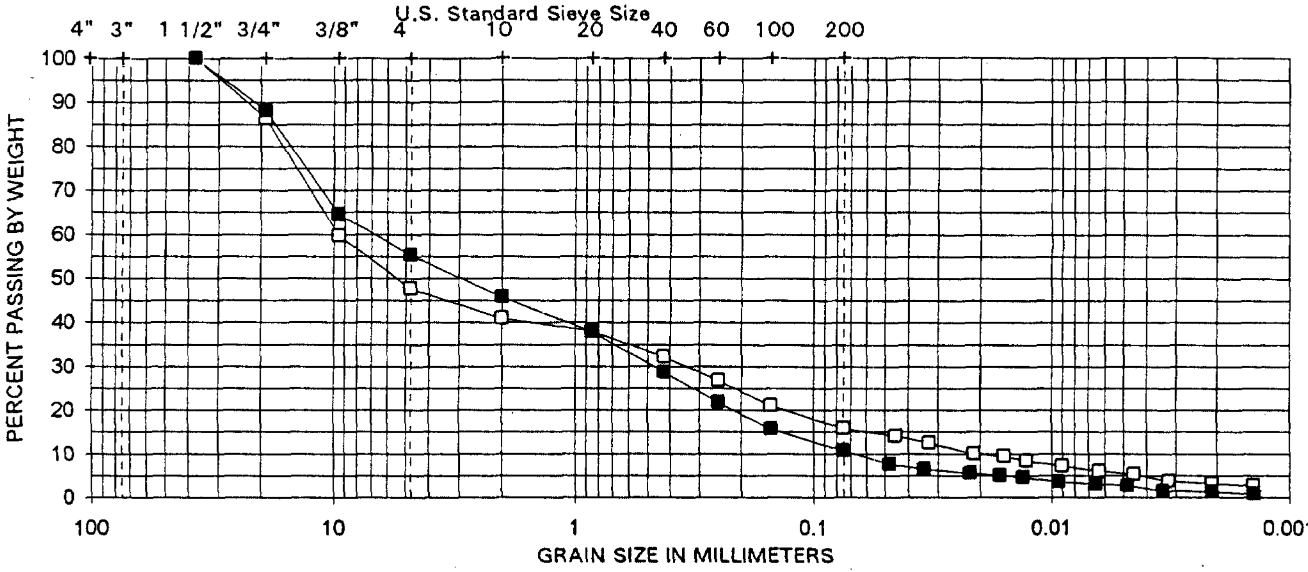
BORING	SAMPLE	DEPTH (FT)	SYMBOL	DESCRIPTION	w (%)	LL	PL
S9	4	11-12	□	GP-GM, brown c-f sandy GRAVEL, trace silt.	10.8	---	---
S10	4	14-15	■	SP, gray m-f SAND, trace f. gravel to c. sand and silt.	16.4	---	---

File: SIEV1B.XLS Project No.: 85C4445-D Plotted by: CMJ Reviewed by: m Date: 1/15/96

882140116

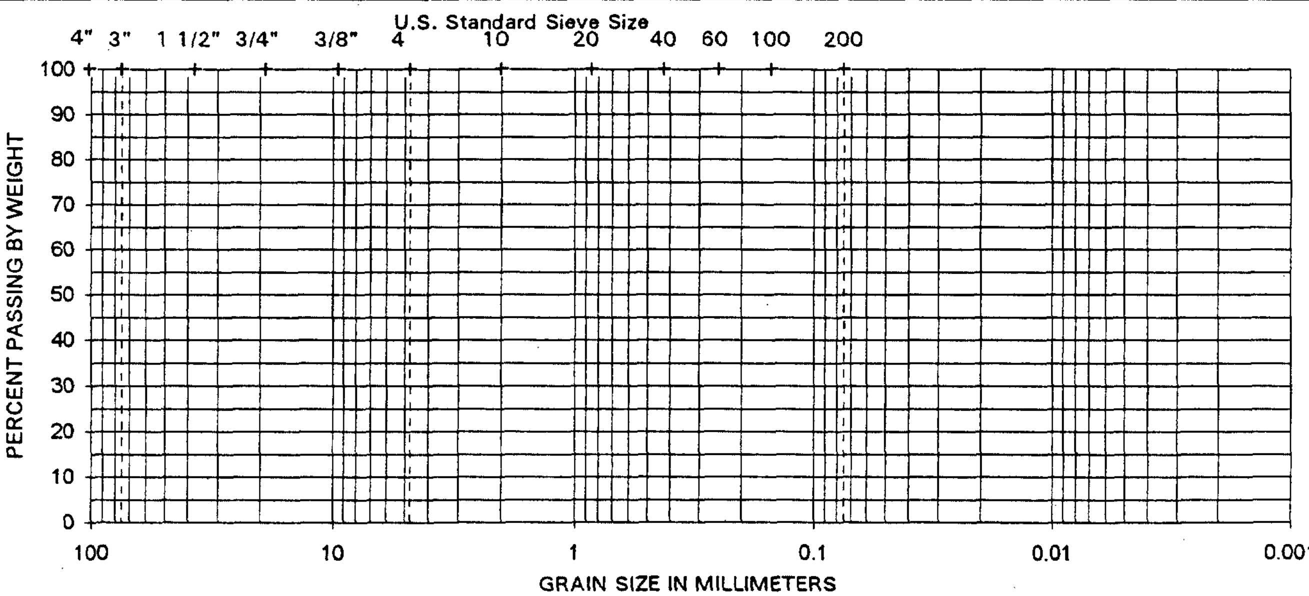
PARTICLE-SIZE DISTRIBUTION

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



BORING	SAMPLE	DEPTH (FT)	SYMBOL	DESCRIPTION	w (%)	LL	PL
S13	1	0-4	□	GM, brown c-f sandy GRAVEL, some silt.	8.0	---	---
S14	4	11.5-14	■	GP-GM, brown c-f sandy GRAVEL, trace silt.	10.2	---	---

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



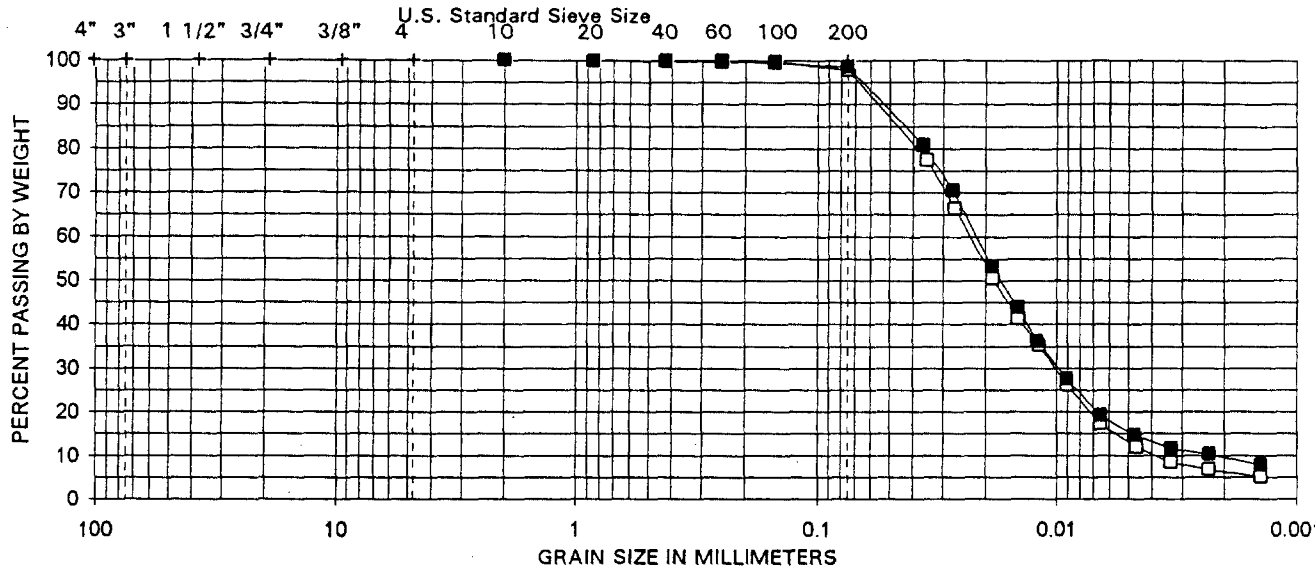
BORING	SAMPLE	DEPTH (FT)	SYMBOL	DESCRIPTION	w (%)	LL	PL
---	---	---	□		---	---	---
---	---	---	■		---	---	---

File: SIEV1C.XLS Project No.: 85C4445-D Plotted by: CMJ Reviewed by: M Date: 1/15/96

882140117

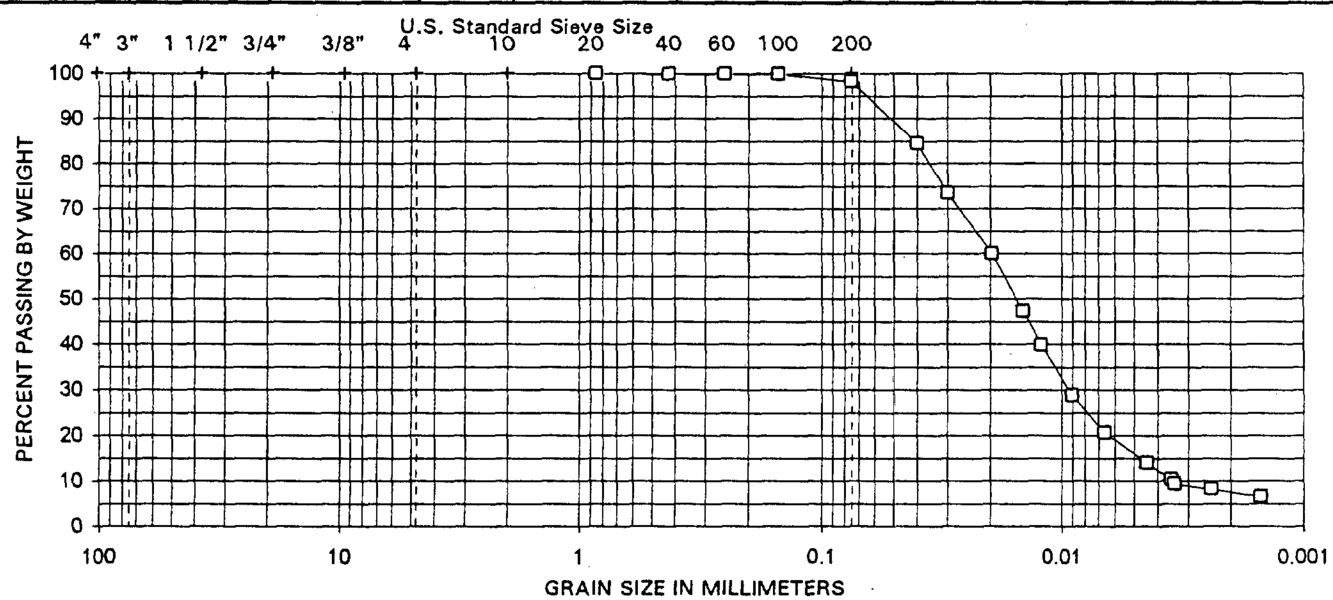
PARTICLE-SIZE DISTRIBUTION

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



BORING	SAMPLE	DEPTH (FT)	SYMBOL	DESCRIPTION	w (%)	LL	PL
S12	3	---	□	ML, brown non-plastic SILT, trace f. sand.	---	---	np
S13	4	---	■	ML, brown non-plastic SILT, trace f. sand.	---	---	np

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



BORING	SAMPLE	DEPTH (FT)	SYMBOL	DESCRIPTION	w (%)	LL	PL
S16	4	---	□	ML, brown non-plastic SILT, trace f. sand.	---	---	np
---	---	---	■		---	---	---

File: SIEV1A.XLS Project No.: 85C4445-D Plotted by: CMJ Reviewed by: [signature] Date: 1/15/96

882140118

Appendix B

2-Phase Extraction Information on the McClellan Air Force Base Pilot Project

ENVIRONMENTAL MANAGEMENT
McCLELLAN AIR FORCE BASE

This site works best with Internet Explorer and Netscape 2.0 or higher.

Innovative Technology Demonstrations

McClellan Air Force Base has been designated as the Chlorinated Hydrocarbons Remedial Demonstration Site as part of the National Environmental Technology Test Site (NETTS) program. NETTS is a joint Department of Defense and U.S. Environmental Protection Agency (U.S. EPA) program for the evaluation and testing of environmental technologies. The Strategic Environmental Reasearch and Development Program (SERDP) is the parent organization that provides support staff for these technologies tested at McClellan.

McClellan AFB completed the demonstration of six innovative technologies that treat volitile organic compounds (VOCs) and petrolium hydrocarbons in the vapor phase (air). These are: titanium dioxide photocatalytic oxidation, flameless thermal oxidation, regenerable adsorption, photolytic destruction, elastomeric polymer filter media, and nonthermal plasma destruction. A seventh innovative technology demonstrated was 2-phase extraction. This technology extracts VOCs from the soil while simultaneously removing contaminated groundwater.

The evaluations are part of the on-going effort to find cost-effective alternatives to conventional environmental remediation technologies. The demonstrations were completed as part of the Environmental Process Improvement Center (EPIC) partnership between the California Environmental Protection Agency (Cal/EPA), U.S. EPA, and McClellan AFB.

THE NEED:
There are about 10 billion gallons of groundwater beneath McClellan AFB contaminated with volitile organic compounds. Normally, contamination is removed by pumping groundwater from wells to the surface for treatment. McClellan uses soil vapor extraction (SVE) systems to remove contamination from soils. SVE systems draw air through the spaces between soil particles literally stripping away VOCs and generating a contaminated off-gas. Currently, catalytic oxidation (cat-ox) or granular activated carbon (GAC) is used to remove VOCs from vapors. These off-gas treatment systems can be expensive to operate.

There are sites on McClellan AFB where both soil and groundwater contamination exist in the same location. McClellan is continually looking for new and cost-effective alternatives to assist in the environmental remediation of the site.

Innovative Technology Index, McClellan AFB

ENVIRONMENTAL MANAGEMENT

2-Phase Extraction from Soil and Groundwater

McClellan AFB has completed the demonstration of an innovative technology known as 2-Phase™ Extraction patented by Xerox, Inc. This technology extracts volatile organic compounds (VOCs) from the soil while simultaneously removing contaminated groundwater. As discussed in the technology introduction, the demonstration was completed as part of the Environmental Process Improvement Center (EPIC) partnership between the California Environmental Protection Agency (Cal/EPA), U.S. EPA, and McClellan AFB.

THE NEED:
There are about 10 billion gallons of groundwater beneath McClellan AFB contaminated with volitile organic compounds. Normally, contamination is removed by pumping groundwater from wells to the surface for treatment. McClellan uses soil vapor extraction (SVE) systems to remove contamination from soils. SVE systems draw air through the spaces between soil particles literally stripping away VOCs and generating a contaminated off-gas. Currently, catalytic oxidation (cat-ox) or granular activated carbon (GAC) is used to remove VOCs from vapors. These off-gas treatment systems can be expensive to operate.

There are sites on McClellan AFB where both soil and groundwater contamination exist in the same location. McClellan is continually looking for new and cost-effective alternatives to assist in the environmental remediation of the site.

Players	Roles
USAF HQ/AFMC	Finding Organization
USAF McClellan AFB	Principal Investigator
EPIC	Partnership Support
Clean Sites	Public/Private Parnership Support
Radian International	On-site Contractor/ Technical Support

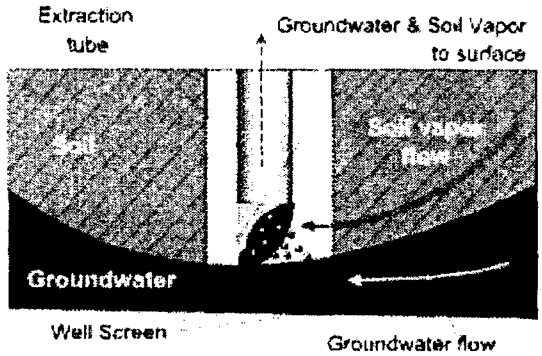
THE OBJECTIVES:
The basic objectives of the demonstration were to determine:

- the effectiveness of the technology at removing contaminants from the soil and groundwater
- the ease of operation and reliability of the system
- the cost effectiveness of the technology

THE TECHNOLOGY:
The 2-Phase Extraction system uses a patented extraction tube to simultaneously remove soil vapor and groundwater from the same well. The extraction tube is lowered so that it just comes into contact with the groundwater. A high vacuum is applied to the well through the extraction tube. This vacuum draws vapors and water up the extraction tube like "slurping" from a straw. The water droplets and

vapor are transported to the surface where they are separated and sent for treatment. Because of the turbulence in the extraction tube, most of the VOCs are shifted from being dissolved in the water to being vapors in the air.

2-PHASE EXTRACTION

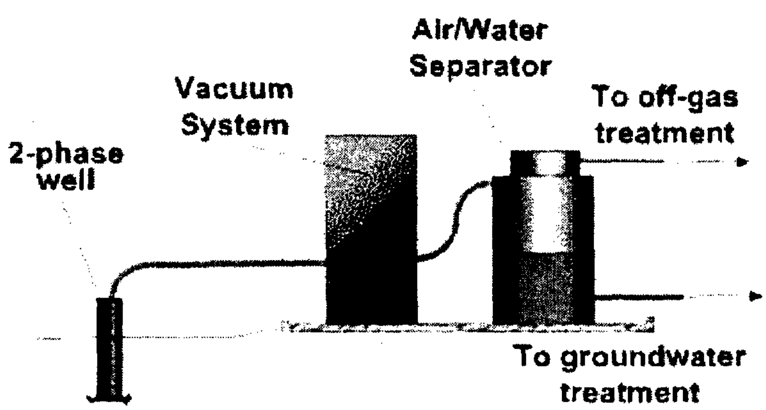


When water is pumped from the ground, the water level within the well and in the surrounding area drops. When around-the-clock pumping occurs, the water level reaches a steady lower level. The extraction tube can be moved up and down within the well to account for lowering of groundwater.

Outside air can also be added into the 2-phase well. In tightly packed soils or during the lowering of the water level in the well, there may not be enough soil vapor entering the well to allow the system to operate efficiently.

THE DEMONSTRATION:
The demonstration was conducted from August 1, 1994, to January 31, 1995, at Investigate Cluster (IC) 1 of Operable Unit (OU) B. OU B covers approximately 325 acres in the southwest portion of McClellan AFB. The area was used from the mid-1940s to 1970 for open bulk storage of liquids. VOCs such as trichloroethene (TCE), tetrachloroethene (PCE), and Freon® 113 have been detected in the soil and groundwater at IC 1.

An existing extraction well (EW-233) was converted from a standard pump-and-treat to a 2-phase extraction well. EW-233 is screened from between 105 feet to 124 feet below ground. Groundwater occurs at about 105 feet below ground in IC 1. The demonstration system consisted of the 2-phase extraction tube in the converted extraction well, the high vacuum unit, and an air/water separator system. During the demonstration, separate granular activated carbon treatment systems were used to treat the contaminated air and groundwater removed.



A total of 1.4 million gallons of groundwater and 24.4 million cubic feet of air were simultaneously removed by the 2-phase system in the six month demonstration. This relates to about 9 pounds per day of contamination removed by the system. Table 1 shows the amount of contamination removed during the test. Over 99.7% of the contamination removed by the 2-phase system was in the vapor (air) phase. Greater than 60% of the VOCs originally in the groundwater were transferred to the vapor phase with the 2-phase system.

TABLE 3. Amount of Contamination Removed

Contaminant of Concern	Vapor	Groundwater
TCE	4.4	0.08
PCE	2.4	0.0024
Freon 113	1.1	0.0016

Amounts removed (pounds per day)

The 2-phase system was reliable during the demonstration operating over 95% of the time. The system could have removed more contamination, but the activated carbon in the off-gas treatment system needed replacement. During this one month period, the effect of low flow rates was also evaluated. There were no adverse effects noticed during the low flow rate evaluations.

An area extending outwards about 200 feet was effected by the 2-phase extraction well. This is similar to the other SVE systems and groundwater extraction wells in operation in OU B.

RETURN ON INVESTMENT:
Before conversion to a 2-phase extraction system, EW-233 and a neighboring extraction well together had removed an average of 129 pounds of contamination per year from the groundwater of IC 1. In the first six months, the 2-phase converted EW-233 removed about 1600 pounds of contamination from the soil and groundwater of IC 1.

The use of 2-phase extraction has accelerated the clean-up of soil and groundwater contamination at McClellan AFB. This accelerated clean-up will help reduce the overall cost of the environmental clean-up at McClellan AFB.

CONCLUSIONS:
The 2-phase extraction system installed for this demonstration is still in operation at IC 1. Other 2-Phase extraction systems are being installed, when appropriate, at McClellan AFB. This extraction system must have adequate air spaces to allow the vapors to be removed from the soil. The 2-phase system is well suited for "tight" aquifers, in that, from aquifers where conventional wells do not produce sufficient volumes of water to use conventional pump-and-treat extraction wells.

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EnvirSense

A Fact Sheet from the EPIC Alliance: Two Phase Extraction System Demonstrated at McClellan

EPIC Greensheet
Fall 1994, No. 14
This is a fact sheet produced by the EPIC alliance.

Environmental Process Improvement Center

Council:

McClellan AFB
U.S. EPA, Region 9
Cal-EPA

EPIC is the Environmental Process Improvement Center, an alliance between McClellan Air Force Base, the U.S. Environmental Protection Agency, Region 9, and Cal-EPA to promote effective environmental protection through innovative management, education, communication and action.

Two-Phase Extraction System Demonstrated at McClellan

McClellan Air Force Base (AFB) is applying a new technology called 2-PhaseTM extraction, an innovative technique for remediation of low-permeability formations where volatile organic compounds (VOCs) are present in soils and groundwater. 2-PhaseTM uses a high vacuum to remove contaminants from above and below the water table simultaneously. The name comes from the two phases of contaminants the system extracts: both aqueous phase (in the groundwater) and vapor phase (in the soil vapor above the water table).

During preliminary testing, 2-PhaseTM has proven to be highly efficient at removing contamination and preventing polluted groundwater from migrating offbase. The novel system can also increase groundwater flow in low-yielding wells and extract contaminants from the soil vapor at the same time. The 2-PhaseTM system cuts cleanup costs by an order of magnitude, simplifies the extraction of both contaminated water and vapor, and shortens remediation times. The system works best in low permeability soils in wells screened across the water table. If wells have already been installed, the 2-PhaseTM extraction system can be easily retrofitted into the existing well.

Background

At a depth of 100 to 110 feet below ground surface, groundwater contaminated with chlorinated solvents and Freonþ from a former plating shop was migrating slowly toward a primary water supply well at McClellan AFB. Prior to demonstrating the 2-PhaseTM extraction system, McClellan installed a Pump and Treat extraction system in the southwest portion of the base and a Soil Vapor Extraction (SVE) system in the northwestern section. In Figure 1, these techniques are compared to

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the 2-PhaseTM system.

The Pump and Treat groundwater extraction system, consisting of two extraction wells (EW 233 and 234) and a carbon treatment system, had been installed to contain the plume before it reached the supply well. However, the EWs proved to be low producers: one well averaged only 1.4 gallons per minute (gpm), and the other averaged about 3.5 gpm while it was operating. Together they removed only 120 lbs of contaminants per year. One of the EWs was also eventually shut down due to low flow rates. Although Pump and Treat serves a critical purpose by containing contaminated groundwater on base, as a treatment process it is slow and expensive.

SVE, on the other hand, is effective and regularly implemented at McClellan. A remediation technology designed to treat only soil vapor, SVE uses a relatively low vacuum to draw out the air from between soil particles, which literally strips the VOCs out of the soil. The extracted contaminants are then destroyed in a treatment system. In the first few months of use alone, SVE removed more pounds of VOCs than the groundwater treatment plant had since its installation eight years ago. One limitation of the SVE system, however, is that it cannot be used below the groundwater table, resulting in the need for another technology to treat the groundwater. To date, the traditional method has been Pump and Treat.

2-PhaseTM Process

Taking SVE a step further, 2-PhaseTM extraction offers an alternative to Pump and Treat by targeting both the soil vapor and the groundwater. The 2-phase system applies a vacuum through a specially sized and positioned extraction tube. The tube is installed within a four to six-inch well or a modified conventional recovery well. A high vacuum (18 to 25 inches of mercury at the source) is used to remove groundwater by entrainment into the flow of recovered soil vapors, supplemental atmospheric air, or a combination of the two.

Groundwater and soil vapors drawn into the well by the vacuum are removed from the well casing through the extraction tube. The vacuum causes vapor to be drawn into the tip of the extraction tube at high enough velocity to entrain water and convey a water/vapor spray up the tube and to the surface. This in turn increases the soil vapor and groundwater flow from the formation by enhancing pressure gradients. The increased flow also means the extraction well doesn't need to be turned off because of dry conditions, thus increasing its effectiveness in containing migration.

The vapor and water phases are separated at the surface in a knock-out tank prior to treatment. The turbulence caused as the entrained groundwater moves up the extraction tube has been reported to effectively transfer more than 90% of the VOCs from the water to the vapor phase; the separated water phase then only requires carbon polishing before discharge. The contaminated soil vapor can be more efficiently treated than the liquid phase.

Demonstration

A demonstration of 2-PhaseTM extraction is underway at McClellan as part of the US EPA Superfund Innovative Technology Evaluation (SITE) program and McClellan's Public/Private Partnership. McClellan is partnered with seven private companies, including Xerox, Dow, AT&T, Monsanto and Southern California Edison, to share comprehensive cost and performance data.

The 2-PhaseTM extraction demonstration focuses on EW-233, a well located in the southwest portion of the base. This well was converted from a standard Pump and Treat well and is the primary focus of the demonstration, since it captures relatively high levels of contaminants from a groundwater plume with a source nearby. A second converted extraction well also located in the same area, EW-234, is being investigated only as a secondary objective since it is located away from the main plume area2-PhaseTM system is skid-mounted and connected to existing wells and piping (see Figure 2).

The base's southwest area encompasses approximately 325 acres and has historically contained storage yards, warehouses, a chemical laboratory, an aircraft fueling area, a woodshop, an instrument repair facility, a painting facility, two industrial waste treatment plants, and a plating shop. Materials handled at various locations within the area include solvents, dimethyl ether, low-level radioactive wastewater, and waste chemicals generated during plating activities. The soil and groundwater in the area contain significant concentrations of trichloroethane (TCE), tetrachloroethane (PCE), and Freon 113. Measured groundwater concentrations range from 37 parts per billion (ppb) to nearly five parts per million (ppm), and measured soil gas concentrations range from 220 ppb to 11 ppm.

The demonstration began in July 1994 and will extend to February 1995. The primary objectives of this demonstration are:

1. to determine the mass removal of target VOCs from EW-233; and
2. to determine the percent transfer of those target VOCs from the groundwater to the vapor as the water is vacuumed up through EW-233's extraction tube to ground level.

Baseline groundwater samples were collected just prior to system startup. During operation, several process variables are being monitored, and water and vapor samples are being collected for analysis. Water level and soil vacuum are also being measured in wells and specially constructed piezometer nests surrounding EW-233 to determine the zone of influence of the 2-PhaseTM extraction system. Other information is also being collected to evaluate the performance and cost of the system, which so far has fallen below 5% of the cost per pound to remove contaminants using Pump and Treat technology.

Benefits

Pilot-scale test results indicate 2-PhaseTM extraction is effective in the low permeability silts at McClellan AFB (see Figure 3):

- The groundwater flow rate and the radius of influence increased to twice that of the Pump and Treat system.
- The mass of contaminants removed increased to more than 1,200 lbs per year, twelve times more than the Pump and Treat rate. Early results of the demonstration test indicate the potential for even higher removal rates: 4,000 to 8,000 lbs per year.
- Up to 95% of the groundwater VOCs were transferred to the vapor phase, where they could be treated more easily.

  [Figure -- refer to source document]

- Estimates indicate that 2-PhaseTM extraction will reduce remediation costs by an order of magnitude, from $1,370 to $70-$160 per pound.

Conclusion

Installation of the 2-PhaseTM extraction system at other McClellan sites will be relatively easy. Areas with soil conditions of low air permeability and water tables at depths of approximately 100 feet are good candidates. Most of McClellan's targeted sites match these soil characteristics, so the potential for widespread use of 2-PhaseTM onbase is great. If success continues, McClellan should meet its goals of increasing the contaminant removal rate, containing groundwater on the base, and removing sources of groundwater contamination.

References

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Last Updated: January 16, 1996

Appendix C

Procedures for 2-Phase Extraction Pilot Test

Pilot Test Procedures

A pilot test was performed at the southeast corner of the site (AOC-1A) to evaluate viability of 2-Phase vapor extraction as a remediation technology at the site. Information collected during the pilot test was used to estimate the contaminant removal rate that could be achieved by the 2-Phase system. The southeastern portion of the site was chosen because of the elevated concentrations of methylene chloride in the groundwater, the thinning of the confining layer protecting the deeper aquifer, and the proximity to nearby residential homes.

The pilot test was performed by utilizing a VAC truck to apply a vacuum to a well with an extraction tube installed in the well. The pilot wells were fitted with a vacuum gauge at the wellhead and in the well bore to record pressure conditions. Additionally, selected wells adjacent to the pilot well were fitted with vacuum gauges and groundwater level monitoring devices to evaluate the zone of influence from the applied vacuum. Samples of vapor and groundwater were collected and analyzed for volatile organics (VOs) to estimate the amount of contaminants recovered during the test. The pilot test was performed on two wells (CW-5 and MW-17) at the southeast corner of the site. During each of the tests, the following data were collected:

- System vacuum and pressure conditions including source vacuum supply, vacuum at well head, and vacuum in well bore (annular space).
- Extraction well vapor flow rate and air use.
- Subsurface vacuum conditions and groundwater level conditions at selected adjacent wells.
- Vapor concentration measured at the 2-Phase system discharge.
- Volatile organic concentrations (VOCs) at the pilot wells prior to the test.
- VOCs of a groundwater sample collected from the collection tank on the vacuum truck.

The results of the pilot test indicate that extremely high contaminant extraction rates can be achieved with the 2-Phase system at the southeast corner of the site. During the pilot test on well CW-5, approximately 13.5 pounds of contaminates were recovered from the subsurface over a time period of 110 minutes. This extraction rate is about 40 times more efficient that a typical pump and treat technology. The results of the pilot test are provided in Section 9.2 of this Remedial Action Workplan Addendum.